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WINTER 1982

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Published in February, May, August and November by the Woodrow Wilson International Center for Scholars, Smithsonian Institution Building, Washington, D.C. 20560. Indexed biennially. Subscriptions: one year, $14; two years, $24; three years, $35. Foreign subscriptions: one year, $18.50; two years, $33; three years, $48.50. Foreign subscriptions air mail: one year, $26; two years, $48; three years, $71. Lifetime subscription (domestic only): $150. Single copies and back issues mailed upon request: $4.50, including postage and handling; outside U.S. and possessions, $6.50. Second-class postage paid at Washington, D.C., and additional mailing offices. Editorial offices: Smithsonian Institution Building, Washington, D.C. 20560. All unsolicited manuscripts should be accompanied by a self-addressed stamped envelope. Send changes of address and all subscription correspondence with Wilson Quarterly *mailing label to Subscriber Service,* The Wilson Quarterly, *P.O. Box 2956, Boulder, Colo. 80322. (Subscriber hot line: 212-687-0770.) Postmaster: send 3579s to P.O. Box 2956, Boulder, Colo. 80302.*

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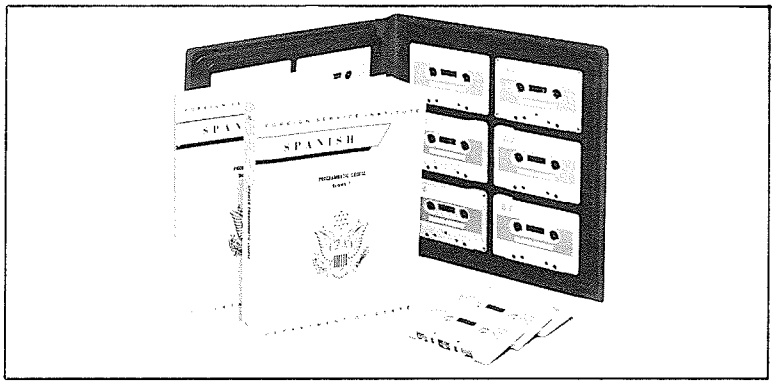

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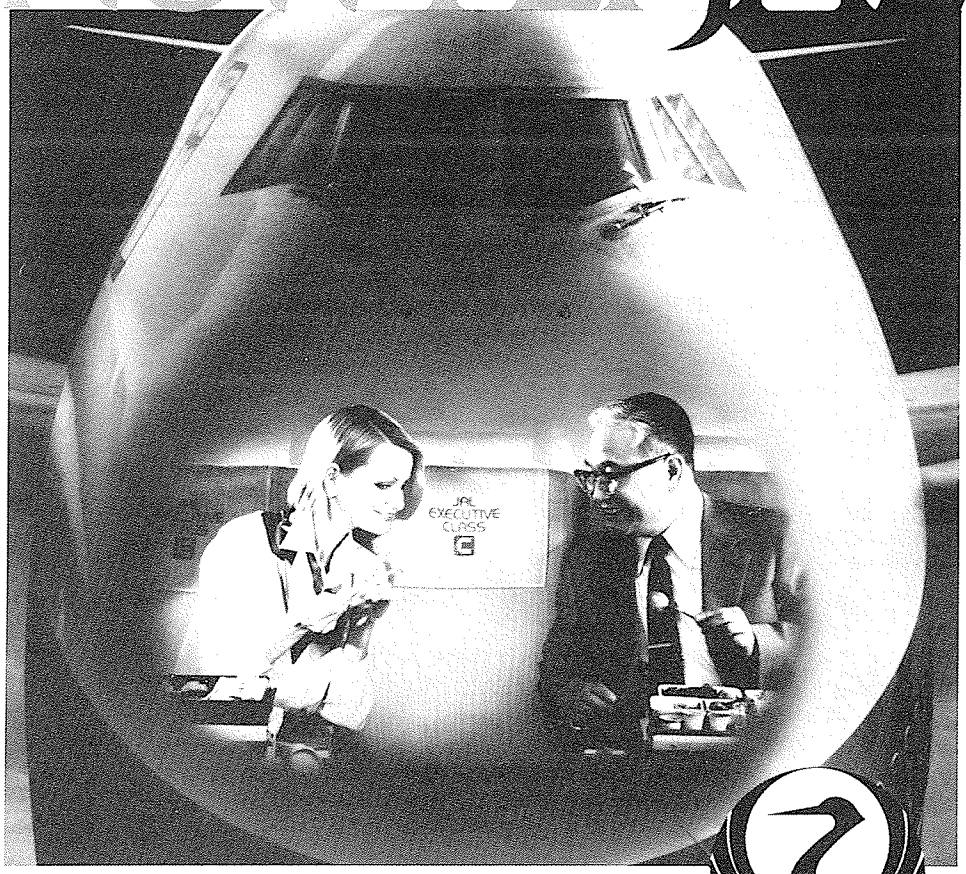

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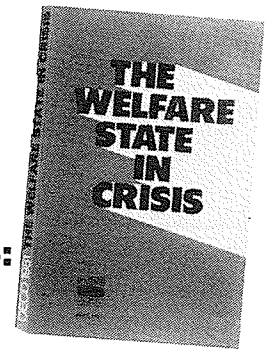

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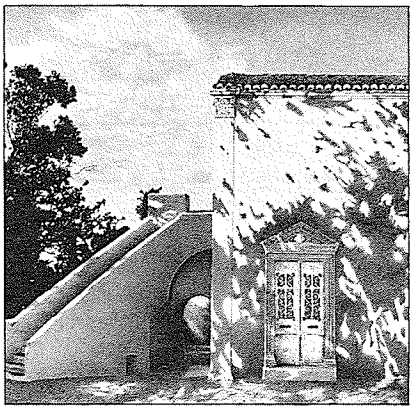

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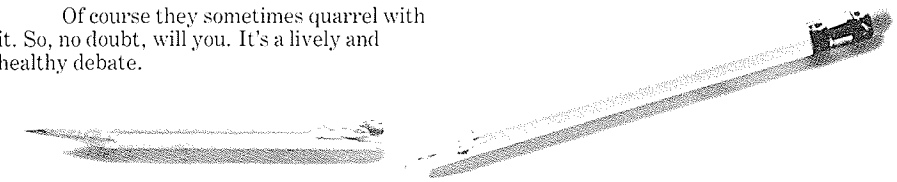

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Editor's Comment

Almost two decades ago, in *Daedalus,* the distinguished academic journal, sociologist Alice S. Rossi urged that all Americans adopt a new notion of "the roles of men and women in which they are equal and similar [in] intellectual, artistic, political, and occupational interests and participation, [and] complementary only in those [few] spheres dictated by physiological differences. . . ."

This broad vision of a largely gender-neutral society was soon shared by many feminists. They urged an end to "sexism" (variously defined but often equated with "racism") in education, employment, the home, and the English language. Amid the turmoil of the 1960s and '70s, male legislators, judges, educators, and Presidents responded. Lawsuits were brought against the reluctant. An Equal Rights Amendment was passed by Congress—the final deadline for ratification by the states is mid-1982.

As every adult American is now aware, the accompanying uproar brought some overdue reforms, melodramatic television, and best-selling polemics. However, the quality of the debate left something to be desired, whether the topic was "Women's Lib" or "Total Woman." And much of the discussion—to say nothing of federal concepts of gender-neutrality — ranged far from the everyday realities faced by members of either sex.

Out of the limelight, meanwhile, the rise of the women's movement spurred a number of serious research efforts in academe, aided by federal grants and foundation largess. Scholars variously sought to re-examine the behavior, attitudes, and biological inheritances of American men and women. Most studies have focused only on women. And, outside the military (pp. 68–69), scholars, like journalists, have concentrated their attention on middle-class women. Much of the most promising research is still underway. But *WQ*'s editors thought it timely to present what the researchers have uncovered so far. There are some surprises.

Peter Braestrup

PERIODICALS

Reviews of articles from periodicals and specialized journals here and abroad

POLITICS & GOVERNMENT

Needed: Politics

"The New Public Philosophy" by Sheldon S. Wolin, in *democracy* (Oct. 1981), 43 West 61st St., New York, N.Y. 10023.

When Ronald Reagan ran for President, he pledged his commitment not only to traditional morality and patriotism but also to a particular set of economic theories. Since World War II, economic viewpoints have increasingly prevailed in public policy—among liberals, influenced by the likes of Lester Thurow's *Zero Sum Society*, and conservatives, versed in the Laffer curve and supply-side economics. The trend marks a profound political change, writes Wolin, a Princeton political scientist. But, he asks, do economic concepts adequately serve cherished political goals?

In the nation's first century, Americans tended to weigh all public issues in terms of broader concepts of justice, freedom, and equality. Moral fervor surrounded even economic questions (the Jacksonian assault on the National Bank, for instance). The roots of an economic perspective start in this country with the rapid industrialization and government growth after the Civil War, writes Wolin. But they go back further—to the 17th-century rise of science, bureaucracy, and corporate capitalism, and to the ideas of Adam Smith (1723–90). Where once people believed that justice, peace, and prosperity were the state's responsibility, Smith said that these "common ends" could best be ensured by the selfish actions of countless individuals in the market. Thus, economists now require of government that it be "objective," that it devise economic solutions to most problems, that it motivate its citizens economically.

This new public philosophy will lead to a political dead end, predicts Wolin. Coping with natural disasters or economic crises in a democracy requires citizens to "cooperate, tell the truth . . . observe the law, and pay taxes." A war would demand even more—death for some. True

politics builds a civic ethic and the basis for common action. Economics promises only uninspiring, narrow "tradeoffs." For this reason, Presidents will continue to need a Moral Majority in the wings. "In their fury over welfare, abortion, women's rights, and school prayers," concludes Wolin, "they furnish a substitute for politics, replete with solidarity, a sense of community, and a glow of moral superiority."

Judicial Overload

"Bureaucratic Justice: An Early Warning" by Wade H. McCree, Jr., in *University of Pennsylvania Law Review* (Apr. 1981), 3400 Chestnut St., Philadelphia, Pa. 19104.

For years, judges, lawyers, and politicians have voiced concern about the "litigation explosion"—a steep rise in the number of cases brought to trial. McCree, former solicitor general of the United States, now warns that recent efforts to relieve the pressure on the federal judiciary have corroded the quality of justice by cutting back the percentage of cases personally handled by judges.

Americans have always believed that justice must be safeguarded by individuals of unusual learning, wisdom, and integrity. Yet from 1940 to 1980, the number of appeals filed in federal courts jumped by 573 percent, from 3,446 to 23,200. Meanwhile, the number of judges grew by only 131 percent (from 57 to 132). The average judge's caseload has soared from 60 to 175 (or 525, counting the cases that members of the three-judge appeals court panels hear but do not write opinions for). Congress's response has been to expand the crew of law clerks allotted to each judge from one to three. Traditionally, clerks have simply performed administrative tasks and informally critiqued the judge's opinions. Today, they frequently draft opinions themselves. Even though judges must sign the work, some judicial involvement is bound to be sacrificed, says McCree.

Reforms designed to speed up the legal process have had a similar effect. In 1980, the now-divided Fifth Circuit (which covered most of the Deep South) disposed of one-fourth of its 4,225 appeals without oral argument. The cases were selected by central staff attorneys; final decisions were handed down either as perfunctory five-to-10-word opinions written by the judges themselves, or as opinions drafted by the attorneys and signed by the judges. McCree contends that the attorney-written decisions sometimes contain glaring mistakes in logic. Moreover, the practice deprives litigants of the reasoned judicial analysis to which they are entitled, revokes their right to confront the bench, and denies judges the opportunity to probe litigants' arguments in depth.

In the interest of quality, McCree would not increase the number of judges. But he would like to see the federal caseload decline. He encourages Congress to draft more precise laws (statutory "gaps" and ambiguities invite numerous appeals). And he urges judges to resist "legislative-type decisions," such as ordering specific remedies to public problems and aggressively redefining their own jurisdiction.

POLITICS & GOVERNMENT

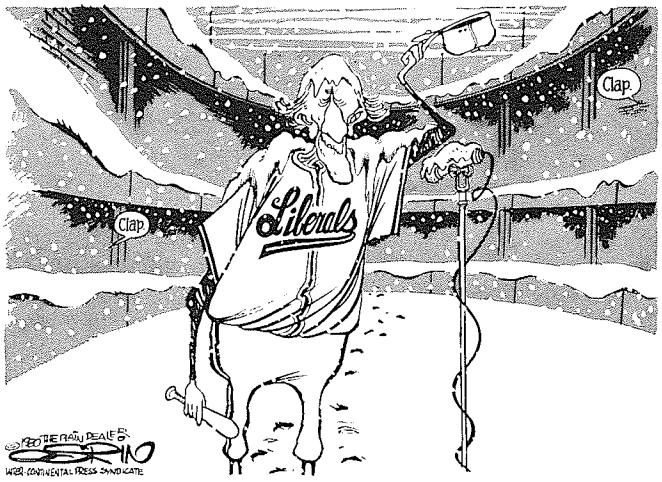
Why Liberalism Has Floundered

"A Historical Perspective on the Future of Liberalism" by Otis L. Graham, Jr., in *The Center Magazine* (Mar.-Apr. 1981), P.O. Box 4068, Santa Barbara, Calif. 93103.

An automobile jerrybuilt with unmatched parts will break down sooner or later. Similar incongruities largely explain the decline of American liberalism, argues Graham, a University of North Carolina historian.

Nineteenth-century "liberals" were predominantly small businessmen. Opposed to the encumbrances of mercantilism and resentful of the state's role, they talked of liberty and supported laissez-faire economics. But by the turn of the century, the growth of monopolistic corporations threatened the free market's provision of vital "public goods"—equal opportunity and social harmony, for instance. So progressive reformers declared justice a liberal goal. Some (represented by Woodrow Wilson) urged using government intervention (e.g., antitrust actions) mainly to restore competitive markets. Others, led by Theodore Roosevelt, envisioned the establishment of strong, permanent regulatory bodies to curb corporate power. The New Dealers, writes Graham, tried to blend these two ultimately conflicting aims—liberty and justice—and added a third, social welfare.

For years, a strong economy enabled liberals to ignore their inconsistencies. The "broker state" they devised, says Graham, "solved" most problems simply by granting the demands of politically powerful factions. Yet liberals' pragmatism soon lapsed into unthinking bias. After years of battling corporate power, they forgot that government



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The Cleveland Plain Dealer*'s Ray Osrin depicts liberalism as being over the hill, facing public scorn.*

develops selfish interests of its own. And they failed to see that public intervention "is often merely another way for private groups to impose costs on the society at large."

At its best, writes Graham, liberalism is a broad "impulse for gradualist reform," aimed at correcting the abuses of modern industrialism and rallying citizens "from privatism and resignation" to action in the community's interest. But liberals must abandon ad hoc economic tinkering and return to some form of laissez-faire economics guided by key planning agencies (e.g., a national development bank, a national service program). And they must acknowledge the need for "social cohesion." Americans' physical and "genetic" health, selective curbs on immigration, and an emphasis on community and cultural bonds, Graham insists, can be promoted by individuals with a "progressive" outlook and not left to "ethnocentric conservatives."

A Political Voice for Business?

"Business and the Media" by Kevin Phillips, in *Public Affairs Review* (vol. 2, 1981), 1220 16th St. N.W., Washington, D.C. 20036.

For all its real or imagined power, Big Business is a largely silent player in American politics. But several recent Supreme Court decisions point the way toward looser legal restraints on corporate political advocacy. So reports Phillips, a Washington political consultant.

The First Amendment to the Constitution guarantees individuals the freedom to express almost any sentiment under almost any circumstance. But corporate speech has traditionally enjoyed fewer protections. Though the guidelines for noncommercial corporate speech (as opposed to pure advertising, which may be tightly regulated) are generally vague, some strict limits have been set. For instance, in order to check the influence of money on elections, federal and state laws bar corporations from advertising on behalf of political candidates (but allow businesses to make limited campaign contributions). The Internal Revenue Service decides whether corporate purchases of "advocacy" ads—which promote a company's views on public policy—are tax deductible.

But the ever-growing importance of economic and energy issues has increasingly blurred the distinction between commercial advertising and corporate political speech. (Is an oil company's exhortation to "develop energy for a strong America" a sales pitch or a political statement?) And no clear judicial yardstick exists for telling the difference. In two 1980 rulings that Phillips believes defy all logic, the Supreme Court deemed one New York utility's literature promoting electricity use as commercial but another's pro–nuclear power pamphlets to be noncommercial.

But future rulings may considerably broaden the bounds of protected corporate speech if *First National Bank of Boston* v. *Bellotti* (1978) is any indication. There, the Court suggested that the "inherent worth of

speech . . . does not depend upon the identity of its source." From its decision to permit a Massachusetts bank to run advocacy ads during a statewide referendum, Phillips believes, it is only a short step to allowing corporate campaign endorsements.

The Court's apparent expansion of corporate First Amendment rights is timely for business, writes Phillips. Pressures are mounting in Congress to reduce the level of campaign donations corporations have lately been allowed to make through political action committees.

FOREIGN POLICY & DEFENSE

How Not to Link

"To Link or Not to Link" by John A. Hamilton, in *Foreign Policy* (Fall 1981), P. O. Box 984, Farmingdale, N.Y. 11737.

"Linkage"—giving a little here to get a little there—has appealed to President Reagan and his three immediate predecessors as a way to deal with the Soviets. Unfortunately, one chip they have put on the bargaining table—the Strategic Arms Limitation Talks (SALT)—is unlinkable, writes Hamilton, a U.S. Foreign Service officer.

Successful linkage requires certain conditions, says Hamilton. Concessions offered must be roughly equal in value. And bargaining must be behind closed doors, to prevent pressure groups from attaching their own conditions and to avoid high public expectations.

In 1969, however, National Security Adviser Henry Kissinger publically linked U.S. willingness to begin SALT talks with Soviet assistance in ending the Vietnam War. Many Americans quickly perceived the proposed deal as an obstacle to slowing the arms race. And they pressured the Nixon administration to disengage quickly from Vietnam without reciprocal Soviet concessions—as Kissinger later admitted.

President Carter initially opposed linking progress on SALT to Soviet military restraint in the Third World but reversed course briefly during 1978—with disastrous results. Administration warnings that Soviet interference in the Ethiopian-Somali border war might prevent SALT's ratification by the Senate were just what the Senate's anti-SALT hawks needed. They proceeded to hold the treaty hostage. When Moscow invaded Afghanistan in December 1979, Carter had to withdraw it from Senate consideration. The problem with such linkage, writes Hamilton, is that no U.S. foreign objective compares with avoiding nuclear war—the aim of SALT. Linkage has worked better when SALT has not been involved. Carter's post-Afghanistan grain embargo did penalize the Soviets, even if it did not force a withdrawal.

Why has strategic arms linkage been so popular? Hamilton writes that Presidents Nixon, Ford, and Carter hoped to curb Soviet adventures while avoiding the interventionism and high defense budgets the American public no longer seemed to support. Ironically, Reagan's

FOREIGN POLICY & DEFENSE

planned arms build-up could enable him to ditch the linkage strategy he has endorsed—permitting the United States to pursue arms control pacts on their merits and meet Soviet nonnuclear military challenges with prudent, yet credible threats of force.

FDR's Covert 'Peace Plan'

"A Presidential *Démarche*" by Richard A. Harrison, in *Diplomatic History* (Summer 1981), Department of History, Bowling Green State University, Bowling Green, Ohio 43403.

President Franklin D. Roosevelt is generally portrayed by scholars as a watchdog who couldn't bark much during the 1930s—an internationalist by inclination who was constrained by staunch isolationism at home. But Harrison, a Pomona College (Calif.) historian, writes that FDR once tried to organize a world peace conference where the democracies would unite to confront Hitler's "grievances."

In 1936, Roosevelt believed that it was up to the great democracies to present a unified front and keep the peace, by diplomatic, economic and even limited military means. Unable to take the lead himself, he considered England, economically strong and politically secure, the logical European alternative. But Britain's Conservative leaders preferred appeasement over resistance to Hitler's ambitions. Only by convincing London that it had a reliable silent partner could Roosevelt hope to "put some steel into the British spine." FDR's encouragement took several forms. He tried to defuse Anglo–U.S. trade disputes by promising closer political ties; he reached a currency-stabilization agreement with Britain and France; and he endorsed Britain's naval pre-eminence.

Several weeks after Germany's occupation of the Rhineland in March 1936, Roosevelt launched his peace initiative. The conference he proposed, rather vaguely, would focus on economic themes (his way of securing U.S. involvement without inciting isolationist protest). If the final terms failed to satisfy the aggressor nations, he figured, most Americans would at least see clearly who the villains in Europe were. Roosevelt melted the skepticism of key British officials—even after he angered them by floating his plan to Hitler first.

Yet two obstacles remained. Secretary of State Cordell Hull, unaware of FDR's strategy, was vigorously pushing for trade concessions in bilateral Anglo–U.S. talks and irritating the British. Moreover, in November 1936, Neville Chamberlain was chosen Britain's new Prime Minister. Roosevelt cautiously tried to win over the anti-American, pro-appeasement leader. But a vaguely worded feeler was misinterpreted as a call for British disarmament and only convinced London of his unreliability. The idea was dropped.

Soon, appeasement's failure became increasingly clear to all. London and Washington finally drew together—not to preserve peace, but to prepare for the war even Chamberlain realized was inevitable.

FOREIGN POLICY & DEFENSE

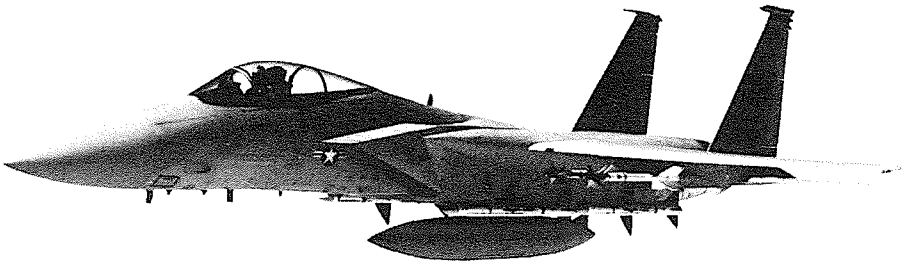

Photo courtesy McDonnell Douglas Corporation.

In combat, could two fliers man this F-15 fighter better than one?

It Takes Two to Dogfight

"The Fighter Force: How Many Seats?" by William A. Flanagan, in *Air University Review* (May-June 1981), Superintendent of Documents, Government Printing Office, Washington, D.C. 20402.

America's new jet fighters—the F-15, F-16, and A-10—have a lot in common: great speed, dazzling maneuverability, and a single-seat cockpit. Flanagan, an Air Force major, argues that such heavy reliance on one-man fighters is a big mistake.

In the first fighter planes of World War I, one man flew, and his partner fired a machine gun from the rear. But synchronized machine guns fired forward through the propeller's arc soon enabled one pilot to fly and shoot. Since the weight of an extra man cut down on speed and agility during dogfights, single-seaters ruled the skies in World War II.

During the 1950s, after the Korean conflict, military planners focused on the demands of nuclear war—in which jet fighters' main tasks would be to deliver tactical nuclear weapons and shoot down relatively slow enemy bombers. The new strategy obviated the need for maneuverability, and the early radar systems required an extra crewman.

But the conflicts of the '60s were nonnuclear, and U.S. Navy and Air Force pilots in twin-seat F-4 Phantoms found themselves locked into too many losing dogfights over North Vietnam. In 1968, planning for the next generation of fighters, Washington insisted on computer-aided single-seaters. Yet the Phantom's inadequate performance in Vietnam stemmed not from crew weight but from poor crew coordination, contends Flanagan. After the Navy introduced intensive crew coordination training in 1969, its "kill ratio" soared from 3:1 to 13:1.

Now the requirements of air war have changed again, writes Flanagan. Military planners are worrying about a NATO–Warsaw Pact conflict in Central Europe, where American jets will be outnumbered 2 or 3 to 1. Though the F-15, for example, can defeat any fighter "one on one,"

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the numbers dictate replacing the classic maneuvering dogfight with surprise attacks and fast retreats. A second crewman is essential to spot swarming enemy planes because when radar "locks on" to a target, it cannot scan effectively. Unlike their lighter World War II predecessors, today's fighters can carry a second human without a fall-off in performance. What fighter pilots need most now, Flanagan concludes, is a second pair of eyes provided by a backseat partner.

Before the Spirit of '76

"The New England Soldier" by John Ferling, in *American Quarterly* (Spring 1981), 303 College Hall, University of Pennsylvania, Philadelphia, Pa. 19104; "Why Did Colonial New Englanders Make Bad Soldiers?" by F. W. Anderson, in *The William and Mary Quarterly* (July 1981), P.O. Box 220, Williamsburg, Va. 23185.

By the 1770s, many New England colonists were spoiling for a revolt that would rid Americans of the oppressive influence of England. According to Ferling, a West Georgia College historian, this sentiment signaled a dramatic change in New Englanders' attitudes on soldiering.

The Puritans of a century before had been fearsome in skirmishes with the Indians (whom they viewed as servants of Satan). But their mission was primarily spiritual. Their clerics interpreted the suffering brought by Indian battles as signs of God's displeasure. With every conflict's outcome predestined by the Lord, they regarded American warriors as "bees in a hive" who drew strength from God, not as heroes.

But by 1700, New Englanders were embroiled in a series of full-scale intercolonial conflicts with French and Indian armies. These wars seemed far from divine punishments to the merchants who made fortunes supplying the troops. Eighteenth-century leaders exhorted soldiers to "play the *Man*," emphasizing that human courage—not God's intervention—defeated England's rivals. Even churchmen began likening fallen warriors to biblical heroes. As their political conflicts with England intensified, New Englanders increasingly believed that only the rugged, austere American soldier could secure their liberty.

Nevertheless, frequent mutinies and desertions during the 18th-century wars convinced many British officers that colonists made pitiful soldiers. The Americans' unruly behavior stemmed from their unique view of soldiers as wage-earners, writes Anderson, a Harvard historian, in a separate article.

Until the Seven Years War (1756–63), New Englanders defended themselves against the French. Their militia reflected their egalitarian societies, based on covenants and contracts between legal equals. Colonial governments treated their troops as employees entitled to specified terms of enlistment, pay, and rations. But like all professional European armies, the British Army was founded on unquestioned authority. British generals sent to the New World in the 1750s insisted that the Americans serve under them for the war's duration.

Many colonists resisted, claiming that not even a king could alter the "Terms and Conditions" of their enlistment. The nature of their protests—desertions en masse, nonviolent mutinies, and collective strikes—indicate that their grievances were narrowly drawn and, in their minds, negotiable. Some British officers tried threats of punishment and, in one case, force. But the British needed colonial manpower and usually accommodated some of the rebels' complaints.

The Seven Years War, notes Anderson, exposed one-third of New England's men to royal authority. As the British learned contempt for the disrespectful colonials, so New Englanders got a first taste of the royal abuse that sparked revolution a decade later.

ECONOMICS, LABOR & BUSINESS

Recipes for Success

"Economic Success, Stability, and the 'Old' International Order" by Charles Wolf, Jr., in *International Security* (Summer 1981), The MIT Press (Journals), 28 Carleton St., Cambridge, Mass. 02142.

For more than 100 developing countries outside OPEC, prosperity seems as distant a goal as it was 30 years ago. Yet despite initial poverty and steep oil prices, a few Third World nations have engineered vigorous (eight-plus percent) sustained economic growth over the past decade. How did they do it? Wolf, chief economist at the Rand Corporation, describes successful "development recipes" followed, notably, by South Korea, Brazil, Taiwan, and Singapore.

There are some familiar ingredients. One is a relatively free domestic market. The government intervenes to give certain price incentives, rather than to exert bureaucratic control. (South Korea, for instance, has held farm prices high to encourage food output and to keep rural folk from flooding the cities.) There is respect for private property—no sudden nationalizations of domestic or foreign firms. The successful regimes have received generous foreign aid and short-term loans (to take care of current account deficits), plus long-term bank loans and private investment once they have demonstrated economic potential.

Essential is political stability, which eases uncertainty for domestic and foreign capitalists, accompanied by an "explicit and enforced system of laws." If broadly accepted rules for government succession are absent (as they are in South Korea and Brazil), then changes of regime must be kept infrequent. Wolf rejects the claim that military spending can *only* siphon off scarce local resources. A 1972 study, he notes, found that developing nations with the greatest budget emphasis on defense enjoyed the highest economic growth rates. Further, military training of conscripts, as in South Korea, may create a literate, competent work force that can aid the civilian economy.

ECONOMICS, LABOR & BUSINESS

"The recipes for sustained development are neither unfamiliar nor arcane," writes Wolf. Why haven't they been widely adopted? Rhetoric aside, he says, leaders of poorer Third World nations have seldom made economic uplift an overriding priority; most prefer to focus on disputes with neighbors, the acquisition of sophisticated weaponry, or various forms of "socialism." It is no coincidence, he suggests, that such policies enhance the power of the government and its leaders, while proven development "recipes" set limits on state intervention.

Preventing Public Strikes

"Challenging the Taylor Law: Prison Guards on Strike" by Lynn Zimmer and James H. Jacobs, in *Industrial and Labor Relations Review* (July 1981), New York State School of Industrial and Labor Relations, Cornell University, Ithaca, N.Y. 14853.

On April 18, 1979, after contract negotiations broke down, 7,000 prison guards illegally walked off their jobs at 33 New York State institutions. The events of the strike reveal the limitations of collective bargaining, particularly in dealings with public employees, say Zimmer and Jacobs, a graduate student and law professor, respectively, at Cornell.

At the bargaining table, the guards had demanded unusually high wage increases and benefits, which they believed were justified by their high-stress work. Their militancy sprang from resentment over reforms enacted after the 1971 inmate uprising at the Attica prison. After the state's McKay Commission criticized racist, poorly trained corrections officers at Attica, the guards' status and authority suffered. State "pens" were inundated with outside experts who agreed with prisoners that the guards' "brutality" undermined rehabilitation. Several court rulings curbed guards' disciplinary powers. And new policies permitting uncensored mail and work release time for prisoners not only angered the guards but also enhanced convicts' opportunities for prison assaults, drug use, and thefts.

The state's formal grievance procedure was designed to resolve specific disputes over administering existing contracts. And worker-management committees usually restricted their agendas to minor, localized complaints (e.g., concerning mess hall schedules or forced overtime). Collective bargaining served well as a wage negotiating process but not as a forum for resolving more complex problems; collective bargaining also raised union members' expectations in a situation where, in reality, the employer, government, held the trump cards.

New York Governor Hugh Carey broke the strike (which lasted 17 days) by calling in 12,000 National Guardsmen to run the prisons and by invoking the state's Taylor Law, which imposes stiff fines on striking public workers. In the end, the guards won only token wage boosts.

When dealing with public employees in stressful jobs, say the authors, traditional union-management confrontations are no substitute for responsible personnel policies. In the case of New York's prison

guards, programs aimed at boosting *esprit de corps* and developing career ladders into supervisory positions would have taken some of the pressure off union negotiators and the collective bargaining process.

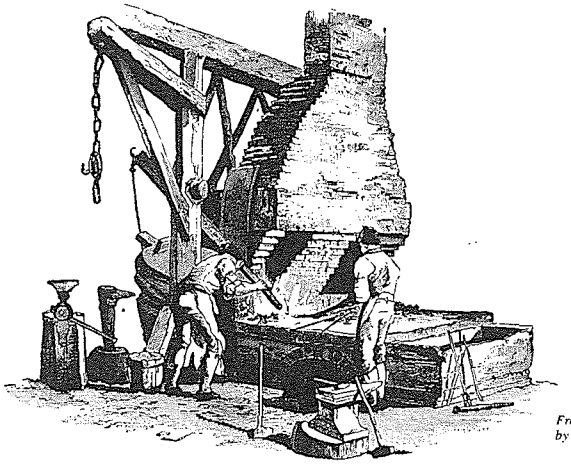
Guns and Butter in Merry England

"Taxation in England During the Industrial Revolution" by Ronald Max Hartwell, in *The Cato Journal* (Spring 1981), 747 Front St., San Francisco, Calif. 94111.

Wars and the taxes that financed them struck many late 18th-century Englishmen and economists—as well as later historians—as drags on economic growth during the Industrial Revolution. In fact, contends Hartwell, an Oxford historian, the economic benefits of taxation and military spending outweighed their costs.

England's Industrial Revolution roughly coincided with the Napoleonic wars (1793–1815) and followed a century of conflict. Modern researchers estimate that while national income rose nearly fourfold during the key 1780–1830 period, taxation per capita probably increased fivefold. Unlike France, England had long been adept at contriving schemes to pay for wars without inflaming its citizenry. It first imposed import duties in 1275 and had been collecting excise taxes on basic necessities and raw materials such as soap, salt, leather, and tea since 1643 (during the English Civil War).

In 1780, squeezing increasingly heavy customs, excise, and land taxes from an unhappy populace failed to produce funds to wage war successfully against the American colonies. In 1797, during the Napoleonic wars, Prime Minister William Pitt convinced Parliament to levy "an efficient and comprehensive tax on real ability"—an income tax. Soon, it was yielding nearly 20 percent of total tax revenue. Moreover, during



Built to supply weapons to British soldiers battling Napoleon at the dawn of the 19th century, factories such as this iron foundry spurred England's industrial growth.

From Microcosm *(1806) by William Henry Pyne.*

the 18th century, the English government pioneered in borrowing and created a public debt to meet day-to-day administrative expenses while carrying on wars. The proportion of English war expenditures financed with bonds and other securities rose from 31 percent in 1800 to 60 percent during the height of the conflict with France.

From 1790 to 1830, war needs transferred 20 percent of English national income to the government. Levies such as the tax on imported raw materials did raise consumer prices, and they reduced individual investments. But government spending spurred the economy with purchases of armaments, uniforms, and other goods. In effect, the public sector, concludes Hartwell, built the nation's industrial infrastructure.

SOCIETY

A Two-Class Black Society

"Black Social Classes and Intergenerational Poverty" by Martin Kilson, in *The Public Interest* (Summer 1981), P.O. Box 542, Old Chelsea, New York, N.Y. 10011.

The decline of black family median income relative to white families'—from 62 percent in 1975 to 57 percent today—is widely taken as a sign that black economic progress has slowed. But Kilson, a Harvard political scientist, contends that this aggregate "lag" masks the emergence of two black classes—the "haves," an employed black majority who have "made it" economically, and the "have nots," comprised increasingly of female-headed households.

Today, writes Kilson, 33.5 percent of employed blacks hold white-collar positions, and 30 percent hold stable blue-collar jobs. These "haves" are giving their children a real shot at prosperity—via higher education. Blacks today make up 11 percent of America's population and fully 10 percent of the nation's college students. Blue-collar and middle-class blacks are sending their offspring to college at rates slightly higher than are comparable whites. Moreover, by 1973, college-educated black men aged 25 to 29 were already earning nine percent more than were their white counterparts ($11,168 versus $10,242), thanks largely to federal policies that induced national corporations to hire more minority managers and professionals.

Meanwhile, due to high rates of divorce and unwed motherhood, the proportion of female-headed black families has risen, from 28 percent of all black households in 1969 to an estimated 41 percent today. The median income of these families was only $5,598 in 1977. And nearly half of their youngsters dropped out of high school. Such youths, writes Kilson, "will find it well-nigh impossible to pass on to their children a capacity for upward mobility."

The institutions that helped black "haves" and other minorities get ahead are not likely to continue doing the job. Trade unions now speak

for the relatively affluent. And government seems less inclined to pursue "interventionist" social policy. "The white poor," writes Kilson, "fashioned a variety of cultural patterns, often aided by religious organizations, which enabled them to [reduce] those features of lower class life detrimental to upward social mobility." Poor blacks need the same "self-help." Neighborhood church youth programs, the Rev. Jesse Jackson's efforts to stir black children's zeal for education (PUSH), and new "back-to-basics" black-run private schools—all represent promising ways to break the cycle of poverty.

The Elderly: A New Breed

"The Long Reach of 1914" by Jane Newitt, in *American Demographics* (June 1981), Circulation Dept., P.O. Box 68, Ithaca, N.Y. 14850.

The "graying" or aging of America was one of the major demographic stories of the 1970s. Virtually ignored, however, have been the change in the characteristics of the growing elderly population and its origins in the early 20th-century Age of Immigration. So writes Newitt, a Hudson Institute researcher.

Between 1905 and 1914, roughly one million foreigners—mostly young, male, and uneducated—sought new lives in the United States each year. Their numbers created not only a regional but a generational "bulge." By 1910, immigrants comprised 75 to 80 percent of the popu-

Climbing into America, 1908. *Lewis Hine's photograph movingly portrays the early 20th-century immigrants who recently comprised much of the nation's elderly population.*

From America and Lewis Hine, Photographs 1904–1940. © *1977 by Aperture, Inc., Millerton, N.Y.*

SOCIETY

lations of New York, Boston, Chicago, and other Northern industrial cities. Fully 20 percent of American adults age 20 to 24 had been born abroad. Then, World War I and restrictive legislation dramatically slowed the influx. Today, the wave of pre-1914 immigrants accounts for the record growth in the number of "old old" Americans (age 75 and over).

The disappearance of the pre-1914 immigrants will move the elderly much closer to the mainstream of American life, writes Newitt. From 1970 to 1990, the proportion of high school graduates among the elderly is expected to jump from 25 percent to a solid majority. The typical 70-year-old in 1990 will have come of age during World War II and have bought a house in the suburbs after the war. Unlike the immigrants, many will have held salaried managerial posts—and earned substantial pensions.

Already, a few gaps in the labor pool have resulted. In 1970, men 60 years of age and older comprised only 10 percent of the male work force, but 30 percent of guards and watchmen, 23 percent of blacksmiths, and 31 percent of shoe repairmen. Women over 60 accounted for 31 percent of dressmakers and 35 percent of live-in domestics. Notes Newitt: "Older people have traditionally been an important source of workers for unskilled jobs that younger people do not want—and for highly skilled jobs for which few younger people have been trained."

Private Schools as Melting Pots

"A Din of Inequity: Private Schools Reconsidered" by Denis P. Doyle, in *Teachers College Record* (Summer 1981), Teachers College, Columbia University, 525 West 120th St., New York, N.Y. 10027.

Private schools, whether secular or religious, have always smacked of elitism and privilege to many Americans. But in the wake of enrollment gains since the mid-1970s, they deserve a new image, writes Doyle, a researcher at the American Enterprise Institute.

Until recently, the private school appeared to be an endangered species. Enrollments plummeted from 6.3 million to five million between 1965 and 1975, mostly due to a sharp decline in the Catholic schools. Public schools, by contrast, grew steadily. But by 1974, these trends had begun to change: Now, private school enrollments are expected to rise from 5.1 million in 1980 to 5.6 million by 1988, and to increase their share of the nation's students from nine to 12 percent. The nose-diving reputation of public schools and the smaller size of the American family, which now has more money to spend on education, account for the turnaround.

The shift has transformed student bodies. Nationwide figures on private schools do not exist, but national data compiled by Catholic schools, state surveys, and U.S. regional censuses tell the story: In Catholic elementary and high schools, white students' share of total en-

rollment (currently 3.1 million) fell from 89.2 percent to 81.7 percent between 1971 and 1981. Black and Hispanic students increased by 12.1 and 11.8 percent, respectively. In California during 1979, Baptist and Episcopal schools both educated higher percentages of black students (12.5 and 17 percent, respectively) than did public schools (10.1 percent). And while 1975 U.S. Census data from the Northeast showed public schools trailing private schools in their share of students drawn from families earning $30,000 or more, the difference was surprisingly small (10.4 versus 16.7 percent). As one researcher put it, America's most exclusive schools today are public schools in affluent suburbs.

Popular support for state aid to parochial schools is growing (52 percent favored it in a 1974 Gallup survey). Doyle suggests that viewing the provision of a service—e.g., through tax credits or vouchers—as government's chief responsibility in education (rather than actually running schools) may answer constitutional objections to federal involvement. Washington already follows this rationale in assisting private colleges; the theory could easily be extended to cover private grade schools and high schools.

PRESS & TELEVISION

Cable Comes to Europe

"European Television: A Changing Force" by Michael W. Moynihan, in *The Journal of the Institute for Socioeconomic Studies* (Summer 1981), Airport Road, White Plains, N.Y. 10604.

Convinced that the airwaves were too potent to be left to private hands, Western European governments nationalized television during the 1950s, as they had nationalized radio 30 years before. Now, the Age of Cable TV is dawning, and the state-run networks are having to adjust. So writes Moynihan, information director of the 17-nation Organization for Economic Cooperation and Development.

Most Western European systems today are financed in part by taxes on TV sets ($61 on a color model in England). But television commercial time is also sold, except in Scandinavia. Advertising revenues today pay half the cost of French TV. So far, Western Europeans have usually kept partisan politics out of the programming office, says Moynihan. Nevertheless, in all countries, the state strictly controls television fare. Broadcast time, for example, is usually limited to evening hours before midnight (at the latest) in order to prevent "wasteful" viewing habits. Until recently, Iceland blacked out TV on Thursdays and during the entire month of July.

Light entertainment has always been popular among viewers, but European TV executives believe in giving the public "what we think they need," as a former BBC director put it—i.e., a heavy diet of news-

casts, public affairs talk shows, educational programs, and "high brow" cultural productions. (In Austria, light entertainment accounts for less than 25 percent of program time.)

Viewer demands for less weighty fare and competition from illegal "pirate" stations have wrung programming concessions in Britain and West Germany. These nations have also sanctioned a handful of tightly regulated commercial stations in response to businessmen who want new advertising outlets. But Italian TV has experienced the greatest change. Since the mid-1970s, 450 private television stations have sprung up in Italy, including channels owned by media conglomerates such as the Rizzoli publishing house. Collectively, they have lured away one-third of the state network's viewers and prompted wholesale state programming changes this fall.

Meanwhile, local and regional cable outfits are sprouting all over Europe. (Residents of Brussels may already choose from among 13 cable channels.) In three years, European broadcast satellites will be able to relay alternative programming to rooftop antennae. Eventually, they will give European viewers the freedom of choice—as well as the kind of commercial fare—long enjoyed by Americans.

Apartheid Journalism

"The 'Black' Press in South Africa" by Rene Lefort, in *International Social Science Journal* (Nov. 1, 1981), 7 Place de Fontenoy, 75700, Paris, France.

Unlike most of its black African neighbors, the Republic of South Africa permits some press criticism of government policies. The white minority regime has even allowed black-owned publications to attack the apartheid system during much of the country's recent history, reports Lefort, a former *Le Monde* correspondent now with UNESCO.

South Africa's first "black" newspapers were created by mid-19th century white missionaries and reflected their conservative, pro-white values. In 1912, the African National Congress, South Africa's first nationwide black political group, created the country's first national black newspaper, the short-lived *Abantu-Banto.* During the 1930s, factionalism weakened the ANC and similar groups, and several black papers were acquired by English-language publishers who were generally more moderate on racial issues than were the Afrikaaners of Dutch origin.

Today, the "black press" consists of both white-owned and black-owned publications, legal and illegal. The former received their greatest boost during the 1960s. The Republic's rapid economic growth created a relatively small, but information-hungry, black middle class, which white publishers tried to reach. Like papers aimed at whites, these publications practice self-censorship to satisfy numerous "security laws" (which prohibit advocating the repeal of "any law" and spreading alarmist information). The most prominent such daily, *The World,* edited by Percy Qoboza, reached 230,000 circulation before it was "banned" in 1977. Today, the mildly anti-segregationist *Johannes-*

burg Post reaches some 125,000 black readers.

Black-owned papers have led an even more precarious existence. When the election of Afrikaaner governments, beginning in 1948, brought tougher segregation laws, many black dissident groups and all but a few black publications were driven underground. Not until black riots broke out during the 1970s did the authorities sanction several "legal" weeklies, such as *The Nation* and *The Voice*. Both face the continuing threat of censorship and banning. Numerous smaller outlawed black publications that preach either violence or simply "socialistic" philosophies are either printed clandestinely inside South Africa or smuggled in from London.

South Africa's newspapers for blacks are "certainly not shattering the foundation of apartheid," Lefort acknowledges. But they have encouraged anti-apartheid attitudes that, in the long run, seem unlikely to respect the government's curbs on dissent.

Why 'Jimmy' Happened

"On Integrity in Journalism" by James A. Michener, in *U.S. News and World Report* (May 4, 1981), P.O. Box 2624, Boulder, Colo. 80302.

How could her editors have printed it? How could they have pushed it for a Pulitzer Prize? How could the Pulitzer advisory board have honored it? These questions have dogged journalists since April 15, 1981, when *Washington Post* reporter Janet Cooke resigned after admitting that she had fabricated her Pulitzer Prize–winning article on "Jimmy," an eight-year-old heroin addict. Michener, a novelist and Pulitzer winner himself (1947), also wonders how someone ignorant of journalism's best traditions rose so far so fast in the profession.

"It takes about a decade to make a good newsman," Michener writes. Until recently, most reporters began slowly, "under some cantankerous editor with high professional and grammatical ideals." Young reporters associated with policemen, bartenders, and politicians; they learned "painfully to distinguish between truth and fiction." During this period, too, they accumulated standards: "I do not betray confidences. . . . I must have two confirmations of a statement like that."

Today, however, "attractive young people posing as newsmen" regularly land jobs in television. Others become print reporters "without any knowledge of English or American history." Cooke joined the prestigious *Post* only three years out of college, in 1979. In 1980, at age 26, she invented "Jimmy." "She had not," explains Michener, "paid her dues."

Many trades and occupations have long used apprenticeships to ingrain standards, and the author recommends that all young journalistic hopefuls serve them. Without such basic training, reporters will develop neither a commitment to the traditions of journalism nor a deeper understanding that it is trust which "makes a newspaper acceptable to its community."

RELIGION & PHILOSOPHY

Bidding for Equality

"What Is Equality?—Part 1: Equality of Welfare" and "Part 2: Equality of Resources" by Ronald Dworkin, in *Philosophy and Public Affairs* (Summer and Fall 1981, respectively), Princeton University Press, P.O. Box 231, Princeton, N.J. 08540.

Efficiency, wealth, liberty—the free market has been hailed for promoting many worthy goals, but equality is not one of them. Yet Dworkin, an Oxford philosopher, maintains that a form of free market is needed to achieve a coherent, fair system for equally distributing resources.

Dworkin examines in detail the pros and cons of two notions of equality. "Equality of welfare" aims to distribute society's resources so that all individuals can fulfill their preferences and ambitions, or so that their lives prove equally enjoyable or successful. But this ideal is fatally compromised by the differing, often mutually exclusive preferences that individuals hold.

Dworkin endorses the contrasting ideal of "equality of resources," by which individuals deserve only equal shares of wealth, no matter how unhappy or unfulfilled this makes them feel. But how can resources be distributed without reflecting the preferences of one individual or group? Ideally, writes Dworkin, society arranges an auction—a primitive form of free market—where individuals can bid for resources with equal amounts of currency.

This may work well on a desert island—or anywhere—for a very short time, but what about later, Dworkin asks, when ambitious souls have turned their shares to profit, unfortunate people have paid medical bills with theirs, and lazy spendthrifts have squandered what they had? There is no justification for permitting individuals to keep the rewards of sheer good luck or forcing them to live with the consequences of unavoidable misfortune, says Dworkin. Permitting the purchase of "bad luck" insurance could ease this inequity. Nor should skillful or more intelligent individuals be especially rewarded, since talent (like a handicap) is pure "genetic luck."

Differences in wealth resulting from hard work, however, should be allowed. How can society make sure that the distribution of wealth reflects the different efforts people choose to make but not the different talents they have been given? Dworkin suggests that the income tax works as a compromise: The levy permits people to achieve financial success through voluntary savings or sacrifice of leisure but implicitly recognizes that some portion of their success must stem from "genetic luck."

With such adjustments—which some Western societies have already made—market-based systems can more fairly distribute wealth than can welfare equality systems. And unlike welfare systems, the market gives people control over their lives, while making them pay the true cost of the lives they choose to lead.

RELIGION & PHILOSOPHY

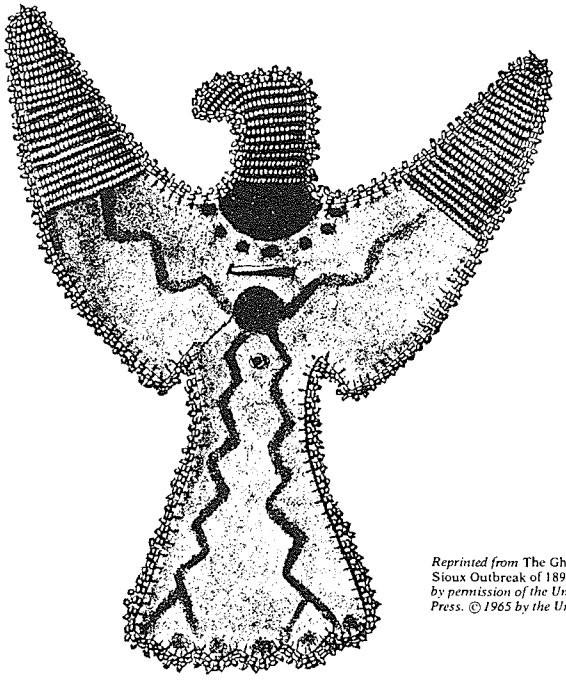
The Cross and the Tepee

"Religious Freedom and Native Americans" by John Dart, in *Theology Today* (July 1981), Princeton Theological Seminary, P.O. Box 29, Princeton, N.J. 08540.

Assailed by missionaries, long stifled by "humanitarian" laws, and eroded by modern ideas, many of the North American Indians' religious traditions have faded. A recent law, the American Indian Religious Freedom Act of 1978, attempts to protect what survives.

Until the mid-20th century, Washington assumed that its duty was to "civilize and Christianize" the Indians (in the words of one 1887 law). Watchful federal agents banned sacred ceremonies they thought were debasing—such as the Sun Dance of the Plains Indians, in which participants pierce their muscles with skewers. Some Indians responded with a compromise of sorts: establishment of the Native American Church. Incorporated in Oklahoma in 1941, it now claims 100,000 members (mostly southwestern Navajos), or one-eighth of the Indian population. The church blends Bible study and Christian imagery with tepee prayer meetings and ritual peyote consumption.

But the "gradual erosion of Indian customs, most of which are much older than those of the Native American Church," continues to plague many tribes, writes Dart, a religious reporter for the *Los Angeles Times*.



This bead-ornamented, rawhide figure depicts a central spirit of American Indian theology—the Thunderbird. Many Indian religions have been weakened by the white man's laws and by 20th-century ways.

RELIGION & PHILOSOPHY

Navajo medicine men have tried injecting new rigor into their practices by licensing their profession. And many tribes whose own religious rites have vanished with their old priests are now adopting the symbols of the Plains Indians—e.g., the sacred pipe and Sun Dance. Forty percent of all Indians are Christian, at least nominally. Many Protestant and Catholic church workers are trying to fit Indian rites into the framework of Christianity. Episcopalians, for instance, have accepted Navajo medicine men into their congregations and permitted them to offer prayers.

The American Indian Religious Freedom Act requires federal agencies to "protect and preserve" the Indians' right to practice their traditional religions. The law has ensured the Paiutes and Shoshones of access to sacred hot springs on the China Lake Naval Weapons Center in California and enabled Indian convicts to build a prison "sweat lodge" for pipe ceremonies. But whether the law bars private land development on sacred Indian sites is unclear. And no federal law can protect the Indian religions from the less tangible influences of secularism or from the white man's proselytizing.

SCIENCE & TECHNOLOGY

Classical Science

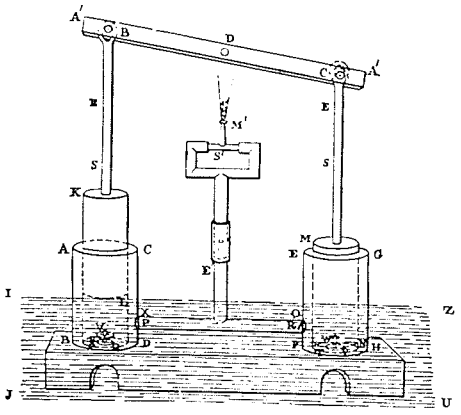
"Godliness and Work" by Lionel Casson in *Science '81* (Sept. 1981), P.O. Box 10790, Des Moines, Iowa 50340.

The Parthenon, the great roads to Rome, the stately buildings of ancient Greece stand as testaments to muscle power rather than to technology, writes Casson, a historian at New York University. Greek and Roman scholars knew the energy potential of steam, compressed air, and water; but their efforts to harness these powers produced gadgets such as coin-operated holy water machines or miniature steam engines, not practical machinery. Why?

Most scholars believe that an enormous pool of cheap labor and slaves in ancient Greece and Rome dulled the incentive to develop work-saving devices. Yet, the author notes, contemporary books on farming—the main business of the ancients—complain of a manpower shortage. Casson blames an ancient prejudice against manual labor for the absence of technological progress.

Apollo, the god of music, was imagined by the Greeks to be "gloriously handsome." By contrast, the god of the forge, Hephaestus (Vulcan, to the Romans) was homely and crippled. According to the poet Homer, his appearance drew "unquenchable laughter" on Mount Olympus. Craftsmen fared no better on Earth. Plato ranked them at the bottom of society; Greek and Roman aristocrats scorned them. And intellectuals avoided their stigma by focusing on theory and impracti-

Early Greek and Roman inventions included many toys—such as this steam-driven "fire engine," designed by Hero in the second century B.C. But the ancients had little interest in finding practical uses for their scientific knowledge.



New York Public Library Picture Collection.

cal projects or by applying their knowledge only to tools of war (Archimedes' catapults and cranes, for instance).

Moreover, the Greeks and Romans believed that honorable wealth came from the land. Men who made money by other means—trading or industry—invested their profits in land rather than "research and development." And farmers, who enjoyed a sellers' market, saw no reason to cut profits even temporarily by investing in machinery.

By A.D. 1200, however, Europe ceased to be a technological wasteland—thanks to Christianity. Monks who followed the Lord's example by working six days and resting on the seventh had spread the view that labor was exalted—even a religious act, like prayer. Every community had its water mill (there were more than 5,500 in England alone). Windmills were becoming a common sight. The pathetic image of Hephaestus the Smith had disappeared—replaced by manuscript drawings of God as Master Craftsman of the universe, with carpenter's square and scales.

Ancient Man, Modern Feud

"The Politics of Paleoanthropology" by Constance Holden, in *Science* (Aug. 14, 1981), 1515 Massachusetts Ave. N.W., Washington, D.C. 20005.

Like reconstructing the plot of *War and Peace* from 13 random pages—that's how one anthropologist has described the challenge of piecing together man's family tree from fossil fragments. But paleoanthropology has experienced more war than peace in the last 10 years, reports Holden, a *Science* staff writer. The field remains split between supporters of two researchers—Richard Leakey of Kenya and Donald Johanson of the Cleveland Museum of Natural History.

Both scholars ask the same question: For several million years, the line that evolved into *Homo sapiens* coexisted with the other prehuman species called the australopithecines, which later became extinct; when did they diverge? Leakey contends it happened five to eight million years ago. Johanson believes that modern man evolved more recently, between two and three million years ago. In 1974–75, in Ethiopia, Johanson discovered a "whole population" of hominid bones (the most famous specimen, dubbed Lucy, is 40 percent complete). Their age: more than 3.5 million years. Johanson attributed great variations in the fossils to differences between males and females and concluded that he had uncovered an entirely new species, the common ancestor of both australopithecines and modern man's direct forerunners. Leakey contends that Johanson's find represents two species, maybe more—certainly no common ancestor. The feud has been public and sometimes nasty.

Luck plays a big part in paleoanthropology, writes Holden. "Leakey had the luck to be born into the ruling dynasty of East African paleoanthropology" (his parents were Louis and Mary Leakey, both noted paleoanthropologists). "Johanson had the good fortune to find Lucy." As a result, she writes, paleoanthropology will probably always be dominated by a few individuals—the ones who make the major finds, get the research grants, and stay in the public limelight.

But some of the most important research into man's past has been taking place in laboratories, not in the field. X-rays of cross sections of bone can reveal areas of stress and strength and tell us much about our ancestors' physical activities and capabilities. Paleoneurologists such as Ralph Holloway of Columbia are analyzing casts of the insides of early skulls, hoping to determine when speech developed. Microbiologist Jerold Lowenstein of the University of California School of Medicine in San Francisco is working to identify species-specific proteins. Projects such as these, says Holden, may one day untangle the very puzzle over which Leakey and Johanson now argue.

Stones and Stars

"Stone Age Science in Britain?" by Alvar Ellegård, in *Current Anthropology* (Apr. 1981), 5801 Ellis Ave., Chicago, Ill. 60637.

A 5,000-year-old astronomical observatory, revealing an understanding of algebra, geometry, and trigonometry—this recent explanation of Stonehenge, the mysterious circle of boulders southwest of London, has aroused the interest of many admittedly skeptical archaeologists. If correct, it may mark the first known instance of scientific endeavor in a rural, preliterate society.

However, the facts suggest otherwise, writes Ellegård, professor of English literature at Sweden's University of Göteborg.

As early as the fourth millennium B.C., he writes, Briton farmers probably noticed that the sun's point of rising "moves" north and south between two extreme positions (the solstices). And they no doubt ob-

served the moon's similar monthly cycle. These they eventually marked with permanent reference points at Stonehenge and elsewhere on the British Isles. But some scientists, chiefly British engineer Alexander Thom, claim that the builders of Stonehenge could accurately *predict* solar and lunar movements and that they had discovered the moon's orbital "wobble," enabling them to forecast lunar eclipses.

Each lunar wobble—caused by the sun's pull at different points along the moon's path—takes 173.3 days to complete. This perturbation is in turn part of an 18.6 year "in-out" lunar oscillation perpendicular to the moon's orbit. England's chronically cloudy weather, argues Ellegård, would have prevented enough sightings to firmly establish the wobble's regularity. The region, although dryer and 2°C warmer 5,000 years ago, probably enjoyed only one clear day out of every two or three. Further, roughly one-third of all moonrises are invisible to the naked eye, occurring by day and at a phase when the illuminated portion of the moon is small. Stone Age astronomers could have seen no more than one moonrise out of six, Ellegård reckons. And the distortion of moonlight by the Earth's atmosphere would have prevented accurate "readings" of what they did see.

The ancient Babylonians were ignorant of the wobble, but they were able to predict eclipses by referring to meticulous archives. The ancient Britons were "observers," concludes Ellegård, but "we have no evidence that they were really calculators"—and by extension, genuine scientists.

Senility Virus

"The Senility Virus" by Richard Trubo, in *Science Digest* (Aug. 1981), 224 West 57th St., New York, N.Y. 10019.

Senility is widely viewed as a natural, though by no means inevitable, consequence of aging. But most cases may be triggered by a slow-acting, infectious virus, reports Trubo, a free-lance medical journalist.

Senility has many causes, including arteriosclerosis, which blocks the flow of blood to brain tissue. The chief villain, however, is a "degenerative neurological disorder" called Alzheimer's disease. Over one million Americans age 45 and older are afflicted with Alzheimer's (representing 50 to 60 percent of all senility cases). An untreatable disorder, it may be the fourth-leading killer in the United States today. Alzheimer victims usually survive a few years after severe mental deterioration sets in; its early symptoms often emerge gradually, as words are occasionally mispronounced and acquaintances' names forgotten. Impaired judgment and substantial memory loss follow, with disorientation and temper tantrums signaling the disease's final phase.

Alzheimer's symptoms resemble closely those of Creutzfeldt-Jakob disease, a rare form of senility that scientists have proved is caused by a slow-acting virus. Several instances of person-to-person infections of Creutzfeldt-Jakob senility have been documented. And autopsies on the brains of Creutzfeldt-Jakob victims reveal twisted filaments of nerve

cells strikingly similar to those found in Alzheimer patients. Researchers are fairly certain that Alzheimer's, too, is caused by a virus but have been unable to isolate it.

If scientists do locate the Alzheimer virus, their task will have only just begun, notes Trubo. What will they do with it? The Creutzfeldt-Jakob virus, for example, does not trigger an immune reaction from the body—a prerequisite for manufacturing antigens.

"It could be that all of us are infected sometime during our lives" with Alzheimer's virus, suggests Dr. David Kingsburg, a virologist at the University of California, Irvine. Yet some people succumb sooner than others. Susceptibility seems to be influenced—but not determined—by heredity. If researchers can find a way to prolong the virus's incubation time past the human life span, the infection called senility will no longer pose a problem.

RESOURCES & ENVIRONMENT

Of Dams and Snail Darters

"The Endangered Species Act and the Search for Balance" by Winston Harrington, in *Natural Resources Journal* (Jan. 1981), School of Law, University of New Mexico, Albuquerque, N.M. 87131.

In 1978, federal officials trying to save the tiny snail darter from extinction barred the Tennessee Valley Authority from damming the Tellico River. U.S. Senator Jake Garn (R.-Utah) complained that "there are enough obscure species of plants and animals to guarantee that nothing at all will happen in this country."

Congress quickly granted the TVA an exemption to the 1973 Endangered Species Act and in 1978 amended the law. But Harrington, a researcher at Resources for the Future, argues that the legislators ignored the real issue: Who will pay the local costs of protecting vanishing species from threatening economic development projects?

The 1973 law, which protects some 200 kinds of plants and animals, empowered the U.S. Secretary of the Interior to designate certain regions as "critical habitats" for certain endangered species, ranging from the grizzly bear to the furbish lousewort (a flower). The department could ban or require changes in most projects that might alter the habitat. Alterations or cancellations were required *regardless of cost.*

Harrington praises Congress's initial decision to ignore "cost-benefit" considerations. While the financial burden of saving a species is always clear, the benefits are often unknowable (as in the case of miracle drugs that future scientists may derive from wild plants) or intangible (i.e., the psychic satisfaction given to nature lovers). As it happened, the act's overall economic impact has so far been minor. Of 20,000 controversial projects referred to the Interior Department, only a handful pro-

duced "irresolvable conflicts," and only one project besides the Tellico Dam was cancelled outright.

But the expense of court-ordered compromises falls entirely on industry. When the Grayrocks Dam in eastern Wyoming was challenged in 1978 on the grounds that it would dry up whooping crane habitats downstream, a utilities consortium had to pay $7.5 million to remedy matters.

Congress's 1978 procedural reform will not solve the equity problem, Harrington warns. Extensive hearings must now be held before plants and animals are declared endangered. But the interagency board created to hear appeals on threatened projects can delay decisions for nearly two years. And its verdicts can be challenged in court.

The Endangered Species Act is, unfortunately, a law that imposes "concentrated costs and diffuse benefits," the author notes. Further changes in the act are likely, including some that may, in fact, allow certain species of flora or fauna to vanish.

The Greenhouse, North and South

"The Politics of Carbon Dioxide" by John Gribbin, in *New Scientist* (Apr. 7, 1981), New Science Publications, Commonwealth House, 1-19 New Oxford St., London WC1, United Kingdom.

For years, scientists have warned of the so-called greenhouse effect—asserting that extensive burning of fossil fuels will dangerously increase heat-trapping carbon dioxide in the atmosphere, causing the Earth's climate to warm. Now, some have added a new twist. Climatologists at the University of East Anglia, in England, contend that the change will probably benefit the world's tropical regions but hurt the temperate zones. So reports Gribbin, a *New Scientist* consulting editor.

Fossil fuel use among the industrialized countries is leveling off. But growing Third World fuel consumption could contribute to a rise in the global mean temperature of 2–3°C by the year 2025. The change will not be uniform, according to the climatologists, who have compared colder and warmer years over a 50-year period (1925–74). During a warm year, a 3°C mean temperature rise in the Soviet Union, for example, is matched by only a 1–2°C increase in North America. Meanwhile, temperatures in the Middle East, around the Mediterranean Sea, and in the tropics hold steady or even drop in some areas. Rainfall becomes heavier in the tropics but diminishes in the United States, Europe, the Soviet Union, and Japan. The cause, scientists say, is a shift in the atmospheric circulation patterns when the atmosphere warms.

What would such a shift, over a long term, do to world agriculture? In the American corn belt, each 1°C rise in temperature can trim yields by 11 percent, even without a decline in rainfall. And in Soviet Kazakhstan, a 1°C increase can slash wheat crops by 20 percent. On the other hand, rice yields in India and other parts of Asia, Africa, and Latin America could soar by 10 percent or more. These changes are not likely

to occur simultaneously, however. Harvests in the Temperate Zone may decline more quickly than developing countries can muster the resources to take advantage of their improved climate.

"The transition from a natural 'cool Earth' state to an unnatural 'greenhouse Earth' [is likely to be] a time of chronic and severe variations in the weather," writes Gribbin. Some scientists believe that we have entered this phase. A global rash of "unseasonable" frosts, heat waves, droughts, and floods during the 1970s, Gribbin suggests, signal that the "weather machine" is now reacting to the greenhouse effect.

Positive Pollution

"Thermal Ecology: Environmental Teachings of a Nuclear Reactor Site" by J. Whitfield Gibbons and Rebecca R. Sharitz, in *BioScience* (Apr. 1981), 1401 Wilson Blvd., Arlington, Va. 22209.

Environmental benefits from a nuclear plant? It happens, write Gibbons and Sharitz, ecologists at the University of Georgia. They studied thermal pollution caused by the release of tons of hot water into streams and ponds from U.S. government plutonium reactors near Aiken, S.C. Nuclear reactors have been changing the environment of the region since the early 1950s—for better and for worse.

Three of the plant's original five reactors are still operating, regularly releasing 158°F water into manmade reservoirs and nearby natural streams, tributaries of the Savannah River. Waters in one 166-acre pond often exceed 122°F when the reactors are running. Some creeks that receive waste water enter the swamplands of the Savannah River at temperatures of more than 100°F.

The benefits to certain species in the area have been marked. The warmer environment has caused swamp primrose to flower earlier and produce more fruit and seed. Slider turtles enjoy a higher juvenile growth rate, larger body size, and more offspring. The reason, say the authors, is that warm water raises metabolic levels, energy requirements—and appetites. It also attracts fish, whose high-protein content enriches turtle diets. Meanwhile, the deepwater bluegill are producing more warmth-tolerant offspring—an indication of the rapid pace at which evolutionary adjustments can occur.

Yet the nuclear facilities have not been an unqualified environmental blessing. Young large-mouth bass grow big for their age, but the metabolic rate of adults rises to the point that food intake cannot meet physical needs. Many fish become emaciated and susceptible to disease. Year-round warm water also prevents alligators from going dormant. As a result, male alligators produce sperm four weeks earlier than usual and are out of synch with females. The heat has also killed many swamp cypress trees.

The environmental changes wrought by thermal pollution from nuclear plants are neither all bad nor all good, conclude the authors. They are more apt to include the enhancement of some species and the decline of others, or, in the warmest waters, loss of species diversity.

ARTS & LETTERS

When Heroes Were True to Their Word

"Boasting in Anglo-Saxon England: Performance and the Heroic Ethos" by Dwight Conquergood, in *Literature in Performance* (Apr. 1981), Dept. of Speech Communication, University of Arizona, Tucson, Ariz. 85721.

Nowadays, the "strong, silent type" is often considered the ideal hero. Not so in England during the Dark Ages, writes Conquergood, a Northwestern University professor of English. There, boasting of courageous deeds was not only commonplace; it bound warriors to lives of heroic sacrifice.

Modern critics (including J.R.R. Tolkien) have dismissed the boasting of Beowulf and other Old English epic heroes as vainglorious pomp, clear evidence of a character's excessive pride. But Anglo-Saxons in the eighth century, when *Beowulf* was probably composed, saw things differently. Boasts (*beots* or *gilps* in Old English) were made by only the noblest figures, such as Beowulf himself. Silence was a hallmark of villains—such as Grendel, Beowulf's demonic foe.

Boasting required an audience; it occurred in public places, such as the meadhall. In that haven of "warmth, strength, and order erected against a terror-haunted darkness," warrior after warrior would rise and boast to steel his courage and to commit himself to dangerous

The boasts of Beowulf and other Old English heroes strike the modern reader as conceited. Instead, they may have been somber and inviolable pledges to sacrifice in battle for King and country.

From Walhall, Germanische Götter und Heldensagen, *edited by Felix and Therese Dahn.* © *1903 Breitkopf & Hartel.*

deeds. Characters began their boasts by elaborately recounting noble lineages and past heroics. ("I came from battle [where I] destroyed a race of giants," declared Beowulf.) Brandishing of weapons and other theatrical gestures added emphasis. Yet, Conquergood argues, boasts were "future-oriented." "I did" was invariably followed by "I must continue to do." And boasts were made only in preparation for crises, never after them.

The audience played a key role in boasting. To win praise and acceptance, public utterances had to reflect society's ideals—in the Anglo-Saxons' case, the warrior virtues of valor and loyalty, not pragmatism or caution. A boaster would never have said, "I weighed the alternatives" or "I know when I'm beaten." Boasts thus subjected heroes to the most pressing demands of their countrymen. Public shame, or even exile, faced the soldier who broke his vows. As Beowulf's companion Wiglaf warned, "Death is better for any man than a disgraced life."

For Anglo-Saxon heroes, the need for peer respect outweighed "the brute urge to survive." Their boasting was a way to gain recognition for the risks they took and inner peace when their courage proved fatal.

Subversive Art in the Ancien Régime

"Fallen Fathers: Images of Authority in Pre-Revolutionary French Art" by Carol Duncan, in *Art History* (June 1981), Routledge & Kegan Paul Ltd., Broadway House, Newton Rd., Henley-on-Thames, Oxfordshire, R69 1EN, United Kingdom.

The French Revolution of 1789 was an uprising not only against Louis XVI and the *ancien régime* but also against patriarchy in general, whether the authority figure was *père de famille* or king. French artists in the decades immediately preceding the revolution captured the mounting distaste for traditional authority, writes Duncan, a Ramapo College (New Jersey) art historian.

After 1750, rapid population growth and rising unemployment in France strained familial and social discipline and spawned deep resentment of both. It was about this time that French painters became obsessed with old men. Often such figures were shown struggling against the assault of disobedient subordinates—especially sons. Yet many were objects of pity and sympathy, not powerful, fearsome tyrants.

Artists' growing ambivalence was typified by Jean-Baptiste Greuze, probably the most popular French painter of the 1760s and '70s. Greuze was a maverick who drew family scenes in defiance of the Royal Academy's edict to paint only historical and mythological episodes. His *The Father's Curse* (1778) and *The Son Punished* (1779) are strange endorsements of filial loyalty. They portray a rebellious son who abandons his family to join the army and returns home just after his father's death, too late for forgiveness. The stark generational hostility, argues Duncan, invites the viewer "to identify secretly with the criminal while consciously condemning him."

As the Revolution approached, these feelings surfaced even in ap-

proved historical paintings. *The Deluge* (1789) by Jean-Baptiste Regnault—in which a tormented son must choose between rescuing his father or his wife and son—presents a rationale for abandoning traditional authority. And, in Jacques-Louis David's *Brutus* (1789), the Roman leader is shown being forced to execute his traitorous sons, rendered powerless before a genderless abstraction—the state.

Made anxious by reformist rumblings, Louis XV and Louis XVI hoped that these classical representations would inspire patriotism and reinforce the monarchy's image of grandeur and enlightened benevolence. Ironically, after 1789, the same paintings were hung and admired as "emblems of Revolutionary ideals."

The Unromantic Jane Austen

"The Novels of Jane Austen: Attachments and Supplantments" by Daniel Cottom, in *Novel: A Forum on Fiction* (Winter 1981), Box 1984, Brown University, Providence, R.I. 02912.

Literary critics since Sir Walter Scott have been struck by the unsentimental view of love portrayed in the novels of Jane Austen (1775–1817). But Austen's wry studies of romance reflect no lack of feeling, suggests Cottom, of Wayne State University (Michigan). Rather, Austen was reacting to the disorganized state of British society at the turn of the century. To her, Cupid's work was poorly served by the stiff codes and etiquettes ordained by the waning, still dominant aristocracy. But his arrows were no better steered by the sentimental values of the ascending middle class.

Austen resisted the idea that romantic attraction results from distinct affinities between people. The sentimental lover—e.g., Marianne Dashwood in *Sense and Sensibility* (1811)—tries to believe her love is fated, certain. But Austen shows this certainty to be "laughably weak in comparison to the instability of society," says Cottom. To Austen, love is haphazard, subject to displacement, and ruled by circumstance. Thus, the exceedingly correct Mr. Collins of *Pride and Prejudice* (1813) could switch his affections with remarkable speed from Jane Bennet—who had a beau—to her sister Elizabeth, with Mrs. Bennet, the ladies' mother, "stirring the fire."

Love is further obstructed by the "task of telling lies, when politeness require[s] it," as Austen wrote. In Austen's novels, dialogue between lovers, as between all others, must follow long-established, outworn forms that no longer can convey inner feelings. The misunderstandings and conflicts that result provide Austen's plots. Marriages and families are not havens from the world, as they are in Charles Dickens's novels. They are reflections of it. Relationships within them are "as formal as or more formal than" relationships with outsiders.

Austen conveyed the social chaos of the day. But she also showed the ways in which individuals gain some measure of control over their lives: As Mrs. Grant of *Mansfield Park* (1814) observes, "If one scheme of

happiness fails, human nature turns to another; if the first calculation is wrong, we make a second better. We find comfort somewhere."

OTHER NATIONS

A Latin Giant

"Dateline Brazil: Southern Superpower" by Jim Brooke, in *Foreign Policy* (Fall 1981), P.O. Box 984, Farmingdale, N.Y 11737.

With 119 million people, Brazil is the fifth-largest nation on earth. It has the world's eighth-largest gross national product ($200 billion, up 100 percent since 1970) and ranks as the sixth-largest weapons exporter ($1 billion in 1980), selling light tanks and small missiles. Its modern factories churn out computers for China and turboprop planes for the Ivory Coast. According to Brooke, a *Washington Post* correspondent, Brazil is "emerging as the superpower of the South."

The country's economic success rests on an aggressive export policy and a nonideological, open-arms attitude toward other Third World countries, say the author. Lured by low prices, developing countries now snap up 40 percent of Brazil's exports, especially in Africa, where Brazil is linked by language to Portuguese-speaking Angola and Mozambique. Agriculture has contributed to the export boom, too. Brazil is still the world's leading producer of coffee. But soybean output has jumped from 2.2 million to 15 million tons since 1971 and now stands as the country's top export crop.

Brazil now conducts an independent foreign policy. The *Yanquis* remain Brazil's leading trading partners, creditors, and investors. Even so, diplomatic relations were badly strained by the Carter administration's criticisms of human rights violations. President João Baptista Figueiredo condemned the Soviet invasion of Afghanistan. Yet Brazil signed a five-year, $5 billion trade pact with Moscow—Brazilian soybeans and blue jeans for 30,000 barrels of Soviet oil per day. And despite Brasilia's official hostility to Cuba, the regime refuses to endorse U.S. intervention in El Salvador.

Like other Third World regimes, Figueiredo's military government faces some sizable problems. The nation imports 80 percent of its oil, which has pushed its foreign debt up to a world-leading $60 billion. Inflation roars along at 100 percent annually. A new austerity drive has slowed economic growth (to four percent) and spurred unemployment. Finally, Brazil's income distribution is highly skewed; poverty and illiteracy remain widespread.

Yet Brazil now uses barely 15 percent of its arable land. It has yet to exploit its hydroelectric potential. And it sits atop vast, untapped reserves of iron ore, copper, nickel, manganese, and bauxite. Compared to its assets, Brazil's economic liabilities are minor.

OTHER NATIONS

Sweden's Americanization

"The Changing Swedish Electorate: Class Voting, Contextual Effects, and Voter Volatility" by John D. Stephens, in *Comparative Political Studies* (July 1981), 275 South Beverly Dr., Beverly Hills, Calif. 90212.

In 1976, after 44 years in power, Sweden's Social Democratic Party (SDP) lost to a Central Party coalition—a loss that was narrowly repeated in 1979. Some scholars suggest that growing affluence has made conservatives of Sweden's blue-collar class, the traditional mainstay of the SDP. It is true that the working class no longer votes in a block as it once did, says Stephens, a Brown political scientist; but, more significantly, neither do white-collar workers. He anticipates an "Americanization" of Swedish politics.

Since World War II, working-class Swedes have enjoyed educational opportunities, rising incomes, and an increase in social mobility that have begun to blur old class distinctions. But the biggest change in Swedish society has been the growth of trade union membership in the white-collar professions. TCO, the white-collar union, now represents 25 percent of Sweden's labor force. Where once white-collar individuals voted their social status (i.e., anti-socialist), they now vote their economic self-interest—as employees. The problem for the Social Democrats is that "voting left" no longer necessarily means voting SDP.

As labor organizations have grown, Sweden's middle parties have made adjustments. SDP policies, ironically, have helped. The socialists stressed rapid industrialization and economic growth. Some of the results—the dehumanization of the work place, unplanned regional change, and, especially, an ambitious nuclear program—created allies on the Left (such as the ecology movement) for the Central Party.

Leftism is increasing in Sweden, says Stephens, but party voting is declining. Votes are becoming less predictable, and many Swedes seem to be making their political choices near the end of campaigns. Frequent changes of government are likely to be the result, particularly under a new constitution that mandates short (three-year) terms in office. Elected officials, Stevens concludes, will be tempted to watch opinion polls instead of trying to pass coherent national programs, and to depend increasingly on "American style" media blitzes and personality politics.

Moscow's Errant 'Satellite'

"Communism and Ethiopia" by Paul B. Henze, in *Problems of Communism* (May-June 1981), Government Printing Office, Washington, D.C. 20402.

Widely displayed Soviet flags and portraits of Marx and Lenin suggest that Ethiopia (1980 population: 31 million) is rapidly turning into a full-fledged Soviet satellite. But Henze, a former U.S. diplomat in Addis Ababa, argues that, in reality, the interests of military ruler Mengistu

OTHER NATIONS

Located close to oil-rich Saudi Arabia, Marxist Ethiopia is armed by the Soviet bloc. But Western aid may be this impoverished land's best hope for developing its farms and oil fields.

Source: J. Bowyer Bell, *The Horn of Africa—Strategic Magnet in the Seventies* (1973).

Haile Mariam and his Soviet bloc allies are steadily diverging.

Mengistu rose to power shortly after the September 1974 coup that deposed Ethiopia's pro-Western emperor Haile Selassie. By 1977, the former major had antagonized Washington, thanks to his Marxist leanings and his brutal repression of local foes. That April, Ethiopia severed its U.S. military ties and began receiving $2 billion worth of Soviet weaponry. In 1978, Soviet arms and 13,000 Cuban troops helped Mengistu repel an invasion by neighboring Somalia, a former Soviet client.

Yet despite Soviet exhortations, Mengistu has not created an Ethiopian communist party. He has retained Selassie's government ministries and their Western-educated civil servants. Ethiopians can read *Time* and listen openly to Western radio broadcasts. Moreover, Mengistu has permitted the nation's Coptic Christians (70 percent of the population) and Muslims to worship freely.

In fact, Ethiopia's religiosity (church attendance began increasing steadily during the late 1970s) is sure to frustrate further "communization." So will growing nationalism. In addition, writes Henze, Mengistu remembers that bountiful Soviet arms shipments during the early '70s (plus Ethiopia's internal strife) encouraged the 1978 Somali attack.

Above all, Western aid represents the best hope of solving Ethiopia's economic woes. Moscow's nonmilitary aid remains miserly; Ethiopia must finance the upkeep of its Cuban troops. The nation could boost revenues by increasing farm exports and finding and producing oil at home. But Ethiopian farmers need incentives, and strict controls have deterred Western oil companies from prospecting.

Finally, the Soviet-Cuban presence has prevented Mengistu from removing a big obstacle to recovery—the persistent revolt waged by the

northern province of Eritrea. As long as Ethiopia is *seen* as a Soviet puppet, the Arab regimes backing the Eritreans are unlikely to press them to accept the regional autonomy Mengistu may be willing to offer. And the rebellion will continue to drain Ethiopian resources.

On Strike in Nazi Germany

"The Workers' Opposition in Nazi Germany" by Tim Mason, in *History Workshop Journal* (Spring 1981), P.O. Box 69, Oxford OX2 7XA, United Kingdom.

Although the Nazis brutally smashed German labor unions after coming to power in 1933, worker unrest—in the form of strikes, slowdowns, absenteeism, and assorted goldbricking—became so widespread that it hindered Germany's rearmament drive until the outbreak of World War II. So relates Mason, a *History Workshop Journal* editor.

Mass unemployment during the early years of Hitler's rule enabled the Nazis to keep German workers in line with threats of dismissal and police intervention. But by 1939, Hitler's massive war preparations had created one million new jobs. Employers found themselves at the mercy of laborers, who began changing jobs, on average, once every 12 months. Many employees were simply exploiting their new market value for better pay and benefits. But workers also resented the constant harassment from bosses under pressure to meet ambitious Nazi production targets.

Despite police intimidation, strikes became common in Germany after 1935. Nazi archives reveal 192 strikes and "strike-like" protests between February 1936 and July 1937. Most involved fewer than 50 workers, and the Gestapo's arrival held the majority to under a day. But they so worried Berlin that, in 1936, the Nazi press was forbidden to print reports of French strikes. Work slowdowns were also frequent, and, as late as September 1939, when Nazi tanks rolled into Poland, 20 percent of Berlin's armaments workers were taking off each day after payday.

Many employers responded with major concessions. From 1936 to 1939, average weekly blue-collar earnings jumped 17 percent. Firms began offering health insurance and even installment payments on Volkswagens. Nothing worked. Beginning in June 1938, as world tensions mounted, Berlin abolished the eight-hour day, cut wages, and started conscripting workers for priority projects. But workers' protests in September 1939 forced the government to relent. Only by turning to slave labor in the early 1940s did Hitler solve his manpower problems.

German workers' actions were not overtly political, writes Mason, nor were they demonstrably antiwar protests. But they indicate that many laborers were unwilling to fully subordinate themselves to the demands of the Nazi system. And they show Hitler's failure to mold a classless Germany, bound tightly by superpatriotism.

RESEARCH REPORTS

Reviews of new research by public agencies and private institutions

"Strategies for Effective Desegregation: A Synthesis of Findings."

Center for Education and Human Development Policy, Institute for Public Policy Studies, Vanderbilt University, Nashville, Tenn. 37212. 195 pp. $10.
Authors: Willis D. Hawley et al.

School desegregation—even some of its staunchest initial backers believe that it has largely failed to end racial separation and boost minority students' academic performance. Yet after examining more than 1,200 scholarly studies and analyzing the experiences of 17 cities, a team of researchers headquartered at Vanderbilt University contends that desegregation has benefited minority children without harming white students. They also suggest how the ill effects of mandatory desegregation—racial conflict and "white flight" to private and suburban schools—can be minimized.

Despite the sometimes violent protests it has sparked in cities such as Boston, compulsory desegregation continues to be the most effective way to end racial separation. "Even where substantial white flight has occurred," contend the authors, "racial isolation has remained significantly less than it was before desegregation."

And "metropolitan" plans that merge city and suburban school systems (introduced in Wilmington, Del., Louisville, Ky., and just a few other cities) reduce white flight not only by forcing anti-integration families to move farther to avoid change but also by lowering the proportion of minority students throughout the new district and thereby alleviating white anxiety.

Where possible, the research indicates, officials should aim for minority student populations of roughly 15 to 20 percent of the student body. This "critical mass" seems to "encourage intergroup contact, discourage self-isolation" and force educators to respond to lower-class minority students' special needs (e.g., with remedial or bilingual programs). Further, scholars have found the worst race relations in schools that are 40 to 60 percent white.

The Vanderbilt researchers found no studies showing that desegregation has hurt white or black student scores on standardized verbal and math tests. This holds for students who were bused —over any distance. For instance, a 1973 survey of Southern school districts found "no evidence that busing *per se* . . . (or) attending one's own neighborhood school has any effects, positive or negative, on school achievement or social climate."

In fact, several desegregation strategies prove helpful to minority students. Numerous studies show that "desegregation begun in kindergarten or grade one will enhance minority achievement test scores much more than desegregation in later grades." One simple reason: It avoids the disruptive effects of changing schools and classmates in mid-course. The authors note that Dallas and Los Angeles school officials have ignored this evidence and excluded early grades from present desegregation programs.

School officials can take several additional steps to ease the difficulties of integration. Under mandatory desegregation plans, white parents in Boston were willing to send their children to educationally "souped up" magnet schools located in integrated neighborhoods. (However, in districts with over 30 percent minority enrollments, magnet schools will not lure whites.) Sim-

ply renovating a delapidated ghetto school can overcome many white parents' misgivings.

Finally, the authors recommend integrating administrative and teaching staffs, reducing school and classroom size, and strictly controlling the use of "tracking" programs that too often needlessly resegregate the races when they are finally under one roof.

"Managing Oil Disruptions: Issues and Policy Options."

Staff Working Paper, Congressional Budget Office, U.S. Congress, Washington, D.C. 20402. 64 pp.

The Arab oil embargo and the ensuing 400 percent OPEC price increase of 1973–74 suddenly transferred billions of dollars to exporting nations' economies and helped plunge the West into deep recession. Five years later, the virtual cutoff of Iranian oil exports wreaked more economic havoc.

Yet the President's standby authority to establish a rationing plan expired September 30, 1981. The Strategic Petroleum Reserve is still nearly empty. And President Reagan's proposal to abolish the Energy Department could leave the country without contingency planning for future oil supply disruptions in the turbulent Middle East.

In this study, Congressional Budget Office economists describe the pluses and minuses of various countermeasures the government might take under two oil cutoff scenarios—a small three-million-barrels-per-day world oil shortfall in which the "benchmark" price would rise from $39 to $57 per barrel, and a larger 7.5-million-barrels-per-day gap that would send prices zooming to $86 per barrel.

Washington's first option is to permit the market to allocate petroleum products and restrain demand by letting prices rise. Windfall profits and corporate income taxes now in place would generate considerable government revenue to plow back into the economy and cushion the blow.

This "neutral policy" could limit the inflationary impact of a small oil shortfall to 3.1 points of the total inflation rate. But it would permit real GNP to fall by a full 1.6 percent and unemployment to rise by 0.7 percent. Moreover, it would do nothing to stem the flow of wealth to foreign oil exporters. And its efficiency nosedives under the large shortfall scenario. Reason: Cash-flush foreign and domestic producers will not be able to reinvest their profits fast enough to bolster the American and other Western economies.

The federal government could also levy three kinds of taxes to recapture more windfall profits and curb the flow of revenues abroad: oil import fees, crude oil refining taxes, and gasoline taxes. Largely by permitting increased federal spending, each would limit GNP loss and employment reductions better than the neutral policy under both scenarios. But they would let inflation rise higher.

Moreover, an oil import tariff might trigger further supply cutbacks or price increases by outraged producer nations. And any taxation scheme would create the enormous challenge of recycling billions in federal revenue back into the economy fast enough to prevent further contraction.

Full-blown gasoline rationing and price controls could cut GNP loss to 0.6 percent during a small oil shortfall by permitting consumers to keep some of the income that would otherwise be transferred to producers under the neutral policy, and to government under taxation schemes. (Their per-

formance in a large shortfall was not examined by the CBO.) They would also limit shortage-induced unemployment and inflation. Yet rationing could be a bureaucratic nightmare.

"There is no single best policy" for coping with oil cutoffs, the authors conclude. The hands-off posture, with its administrative simplicity, is best equipped to manage shortages under one million barrels per day. And tax schemes appear capable of quickly redistributing revenues during one- to two-million-barrel-per-day disruptions. Only the strains created by larger shortages seem to justify rationing—which alone may be able to preserve domestic harmony, say the authors, by creating a public perception of shared sacrifice.

"U.S. Economic Performance in a Global Perspective."

Office of Economic Research, New York Stock Exchange, 11 Wall St., New York, N.Y. 10005. 52 pp.
Authors: William A. Freund et al.

From Wall Street, which panned President Reagan's economic program in September, comes this partial endorsement of his "supply side" principles. The U.S. economy's dismal showing since 1960, says a team of New York Stock Exchange (NYSE) economists, stems from high taxes on investment income, which have choked corporate expenditures on new technologies and equipment and stunted productivity growth.

To gauge how the U.S. economy's "health" compares with that of seven other leading industrial nations, the NYSE devised a measure called the Economic Performance Index (constructed by dividing the real economic growth rate by the sum of the inflation and unemployment rates). Even before 1973—when OPEC oil prices quadrupled—the American economy lagged behind those of Japan, West Germany, France, Italy, Canada, and Sweden, topping only Great Britain. The United States did relatively well only in controlling inflation, but its 9.1 percent average inflation rate from 1974 to 1980 (lower than all but West Germany's) was nothing to cheer about.

Significantly, the United States finished dead last in investment. During 1974–80, America put only 10.5 percent of its GNP into new factories and machinery (excluding housing). Japan invested at twice that level, and France invested 12.4 per cent.

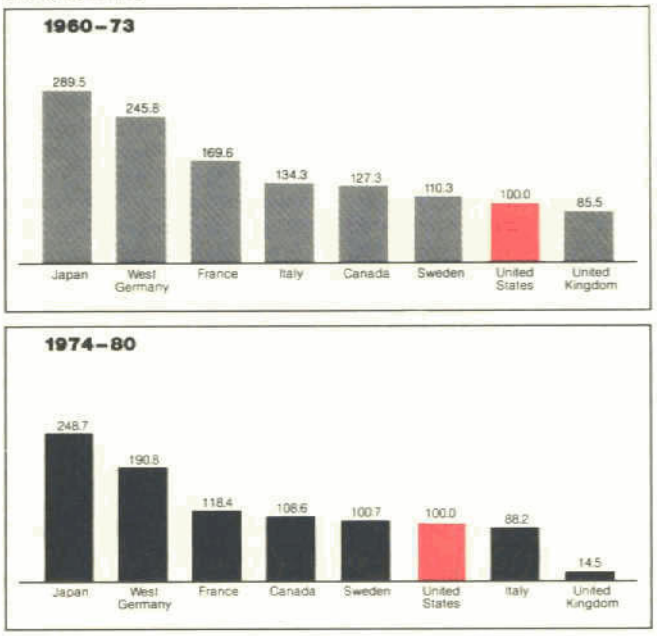
The report blames inordinately high taxes. U.S. taxes on salary (26 percent) and interest income for a hypothetical $50,000-per-year individual during the 1970s were actually the median for the eight countries studied. But on dividend income, the Treasury's take was second only to Sweden's and, at almost 48 cents on the dollar, was more than double the rate in Canada, Italy, West Germany, and France.

The biggest difference of all, however, came in the area of capital gains. Italy and Japan imposed no tax on the profits from the sale of securities; France and West Germany took only 6.2 percent and 5.8 percent, respectively. But Washington claimed 26.8 percent of the investor's profit.

Overall, Americans faced a greater burden of taxation (33.5 percent) on investment income than any of their counterparts studied, save the Swedes (who paid a whopping 52.7 percent). As a result, the Exchange says, between 1975 and 1979, Americans saved only 6.3 percent of their income, by far the

Comparisons of the Economic Performance Index Relative to the U.S.

United States EPI=100



Adapted from U.S. Economic Performance in a Global Perspective, *1981.*

lowest proportion of all eight countries. In Italy and Japan, where the tax burden equalled 6.4 percent and 14.4 percent, respectively, the savings rates exceeded 20 percent.

After 1973, the authors write, all eight countries fell into the "policy trap" of trying to pump up their economies through deficit financing. Their reward was stagflation. Japan, the best performer after 1974, according to the EPI, failed to match last place Britain's record during the 1960–73 period. The moral: Cut taxes on investment income to encourage capital formation, but keep budget deficits under control.

"Analysis of National Crime Victimization Survey Data to Study Serious Delinquent Behavior."

Office of Juvenile Justice and Delinquency Prevention, U.S. Department of Justice, 633 Indiana Ave. N.W., Washington, D.C. 20531. 110, 124, 118, and 116 pp. Fifth volume forthcoming.

A steady flow of news stories has convinced many Americans that hard economic times have boosted the numbers of criminal youth gangs prowling the streets committing unusually violent crimes. But this five-volume survey

prepared for the Justice Department contends that juvenile crime—while still a serious problem—declined slightly during the recession-ridden mid-1970s and proved to be less violent than adult crime.

The authors analyzed Justice Department and Census Bureau surveys that asked crime victims to establish an offender's age. These polls indicate that the annual rate of assaults, larcenies, robberies, and rapes committed by juveniles (12-to-17-year-olds) fell 11.2 percent between 1973 and 1977, to 4,852 crimes per 100,000 youngsters. During the same period, the rate for "youthful offenders" (18-to-20-year-olds) declined by 2.4 percent to 8,116 crimes per 100,000 peers. (The adult crime rate was 2,582 offenses per 100,000 adults.)

Not surprisingly, juvenile crime was still most common in central cities and least common in rural areas. But it was declining everywhere.

Juvenile crimes were far less apt to be violent than were adult offenses. Juveniles accounted for 32 percent of total personal larcenies (thefts of cash, purses, etc., without the use or threat of force) but only eight percent of all rapes. The adult figures were 38 and 76 percent, respectively. Moreover, violent crime as a percent of all juvenile crime held steady.

"Only" seven percent of juvenile crimes caused an injury requiring medical attention, versus nine percent of crimes by 18-to-20-year-olds and 11 percent of adults' crimes. The data supplies one explanation—adult offenders are four times as likely as juveniles to use guns (though knives are equally popular with both groups).

Males and blacks are heavily overrepresented in the ranks of young criminals. Some 43,000 black male juveniles were reported in crimes for every 100,000 black male juveniles in the general population. And nearly 85,000 black 18-to-20-year-olds were involved in crimes for every 100,000 young black male adults. (Victims' reports, however, cannot tell us how many of these were multiple offenders.) The comparable figures for male white minors (7,974), male white young adults (15,054), and male black adults (18,031) were all much lower.

Contrary to popular belief, the rates of unemployment and economic growth had no detectable effects on crime rates among any age group, and changes in the Consumer Price Index correlated with only five percent of crime rate increases or declines between 1973 and 1978.

Seasonal fluctuations in crime, by contrast, produced 51 percent of the overall crime rate changes. Spring and summer appeared to be the most dangerous times of the year.

"Crooks, Conmen and Clowns: Businessmen in TV Entertainment."

The Media Institute, 3017 M St. N.W., Washington, D.C. 20007. 38 pp. $5.50.
Author: Leonard Theberge

On network TV entertainment shows, businessmen are apt to be either executives at the top of the corporate ladder, and invariably crooks, or the owners of small businesses, generally portrayed as buffoons.

The Media Institute examined 200 TV episodes from the top 50 prime-time series between December 1979 and April 1980. The plots involved 118 businessmen, in all; 44 percent appeared on CBS, 40 percent on ABC, and only 16 percent on NBC.

Sitcoms and dramas had nearly

equal shares of businessmen. But regardless of the type of show and the network involved, the picture was the same: 67 percent of the businessmen portrayed were "bad guys"—"criminals, fools, or greedy or malevolent egotists." Only 25 percent wore white hats.

Most TV businessmen were shown outside as well as inside the workaday world. In fact, 27 percent of their involvements in a plot were purely personal. Twenty-six percent reflected a mixture of business and "pleasure"—as when Archie Bunker is sued by a friend who has fallen off a bar stool, in *Archie Bunker's Place*.

Whether a businessman's role was personal or professional seemed to determine his ethics. A hefty 94 percent of all businessmen portrayed as "good guys" were to some extent involved in "interpersonal" dealings, as opposed to philanthropy. "Typical," say the authors, "is a segment of *Lou Grant* in which Mrs. Pynchon, the newspaper publisher, sympathetically coaxes a young reporter toward a reconciliation with her mother."

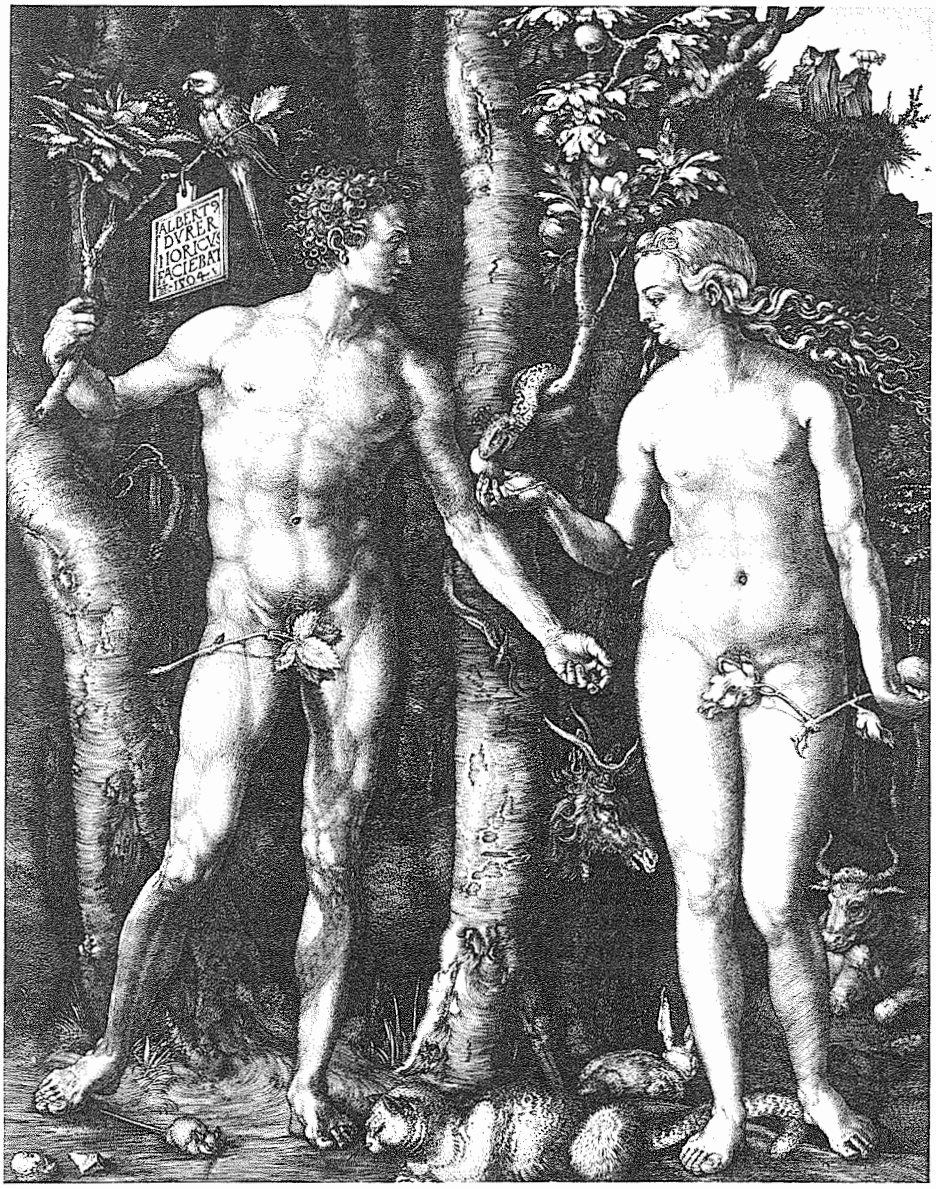
When businessmen were shown performing purely *business* functions, they appeared in a bad light 86 percent of the time. In fact, almost half (45 percent) of all business dealings on TV are illegal (from "stockbrokers who deal in murder," to the small businessman who resorts to false advertising).

And, in contrast to reality, almost one in four TV businessmen (24 percent) either own a large company or serve as president or chairman of the board of one. Fourteen percent are in executive or supervisory positions (e.g., Louie, the nasty dispatcher of *Taxi*). But the largest category (40 percent) own small businesses (e.g., Mel, the excitable proprietor of a diner in *Alice*).

The biggest crooks were at the top of the heap. The authors found that 53 percent of all TV business leaders engaged in illegal activities; seven percent were merely malevolent (none were foolish). Their underlings, however, tended toward malevolence: 23 percent of the middle-level executive/managers were parties to a crime; 30 percent were malevolent; 16 percent were simply stupid or inept.

The biggest fools, however, were the small businessmen. Only 19 percent of them were crooks, and only six percent were malevolent. But 28 percent were foolish.

In sum, when the TV businessman is not arousing our loathing by seeing to the "business" of crime, he is inspiring our scorn with his incompetence.



National Gallery of Art, Washington, D.C. Rosenwald Collection.

Adam and Eve *(1504), by Albrecht Dürer. "It is not good that the man should be alone," said the Lord (Genesis 2:18). The solution: woman. Despite the Lord's intentions, the sexes' first encounter was not a total success.*

Men and Women

The most perfectly organized societies in nature are sexless ones, or those where sex differences have been minimized or somehow suppressed. In America, during the turbulent late 1960s and '70s, feminists began to suggest, in effect, that our own complicated society ought to move in that direction. The role of housewife and mother was disparaged as "unfulfilling"; women entered the labor force by the millions; discriminatory laws were struck down; divorce rates soared. Yet, as scholars note, boys and girls still behave differently as youngsters. The call to motherhood remains strong even to ambitious career women. Males and females continue to look at the world through different eyes. In an odd way, the feminist drive for sexual equality has spurred rather than eroded scholarly efforts to examine "masculinity" and "femininity." Here, anatomist John Fleagle looks at our evolutionary heritage; editor Cullen Murphy surveys the growing mass of research on sex differences in behavior; and constitutional scholar A. E. Dick Howard summarizes relevant developments in the law over the past two centuries.

IN THE BEGINNING

by John G. Fleagle

Sex differences first became a "social" issue some 600 million years ago. Into a world teeming with single-celled, asexual organisms there came a new kind of living thing, one that could not propagate by simple cellular division because it contained only one-half of the necessary genetic material. In order to reproduce, it had to acquire the other half by being fertilized. While oysters, orchids, and orangutans today "have sex" in different ways, the basic principle was laid down in the Cambrian age: For most species, it would take two to tango.

Sex was a watershed. In asexual organisms, such as algae, variation is limited; all organisms of a species are essentially

clones. No species can adapt rapidly to a new environment. Life on Earth was asexual for three billion years, and for three billion years life on Earth resembled a thin vegetable soup. Evolution was slow.

By contrast, every product of sexual reproduction is different, resulting from a mixture of two sets of genes. Not all of the organisms given life in this manner will survive in altered environments, but those that do have a fair chance of passing on the traits that made the difference. Sex stoked evolution, stoking it further when sexual "selection" became a consideration among the higher organisms that sex made possible, and often continuing to help it along by means of a sexual division of labor *after* procreation—among many fish, birds, mammals—that complemented the duality of fertilization itself.

A Living Legacy

Looked at coldly, sex may seem an absurd mechanism, disorderly, a generator of strife in nature as in society; much of human literature depicts sex mocking our intelligence, or challenging it. Yet, as Stephen Jay Gould has written, "odd arrangements and funny solutions are the proof of evolution—paths that a sensible God would never tread but that a natural process, constrained by history, follows perforce." As an evolutionary strategy, sexual reproduction *worked* for hundreds of millions of species. Eventually it produced *Homo sapiens*.

Homo sapiens now numbers some 4.5 billion individuals. Of these, few if any continue to live under conditions remotely approximating those in which humans lived and bred during 99 percent of their history as a species, before agriculture and animal husbandry abruptly changed the trajectory of our culture. Yet the genetic legacy of our past persists in all of us to an extent that is unquantifiable but certainly significant.

Included in this legacy are the numerous physical differences between men and women. Looking beyond the obvious differentiation in reproductive function and apparatus, one observes that most women are smaller than most men and have more body fat but less body hair. Newborn males are less likely to survive infancy than are newborn females. While not obvious

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at a glance to oglers at swimming pools, the tooth structures of men and women are instantly distinguishable to physical anthropologists, archaeologists, and forensic scientists. Lately, more subtle but no less distinctive differences have been discovered in brain cells.

Three Perspectives

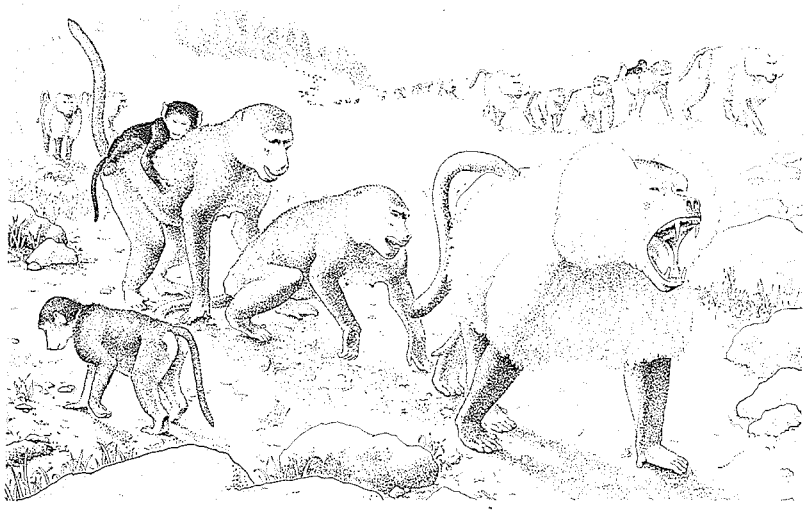
There must be—or have been—good reasons for such differences, for Nature is sometimes capricious with her favors, but rarely profligate. The search for those reasons has occupied an expanding (but still small) group of serious scholars drawn from many disciplines: paleontology, sociology, anthropology, biology, anatomy, zoology, sexology. It is a demanding field of inquiry, where facts are few and interpretations controversial.

The origins and implications of sexual differences in humans can be approached from only three directions, none of them totally satisfying, and none of them truly independent of the others. One way is to observe the behavior of our primate relatives. Another is to look at the fossil record. A third is to ponder human behavior today. Let us take these in order.

Compared to monkeys and apes, the physical differences between men and women—"dimorphism," to use the scholars' shorthand—are in some ways standard, in others confusingly unique. The truth is that monkeys and apes are themselves a very diverse lot. At one extreme, we have animals such as baboons in which males are nearly twice the size of females and have long, dagger-like canine teeth.* At the other extreme are animals such as the graceful gibbons of Southeast Asia or the tiny marmosets of South America in which males and females are virtually identical in size and appearance; to an untrained observer, even their genitals look alike. Then, there are the many intermediate species where sexual differences—in size, teeth, coloring—do exist but are limited and sometimes intermittent. Male squirrel monkeys, for example, seem to put on extra weight only for the breeding season.

There is a pattern in all this diversity: The degree of dimorphism appears to vary with the kind of social organization in which the various animals live. Species with the greatest male-

*A word needs to be said at the outset about teeth, since the reader will encounter mention of them frequently in this essay. To an anatomist, teeth are like fingerprints; from a single tooth a specialist can determine an animal's species, size, sex, and age, reconstruct the shape of its jaw, tell you what it liked to eat. Teeth are especially valuable to paleontologists, who are always working in the dark, trying to visualize creatures no one has ever seen. Teeth have one further advantage: They are extremely durable and may survive intact for millions of years.



Drawing by Sarah Landry. Reprinted by permission of the publishers from Sociobiology: The New Synthesis, *by E. O. Wilson. The Belknap Press of Harvard University Press. Copyright © 1975 by the President and Fellows of Harvard College.*

Polygynous, highly dimorphic hamadryas baboons leave their sleeping rock, each male followed by his harem, infants clinging to their mothers.

female differences in body size and canine size are polygynous. They live in small groups of one adult male and several adult females plus their offspring (like the sacred langurs of India) or in larger groups of several adult males and numerous adult females (like the large baboons of Africa). Species with no significant sexual differences live in monogamous family units.

The reason for this is sexual selection. Most sexual differences are the result of competition among members of one sex for reproductive access to members of the other sex; the sex that invests the least amount of time and energy in the offspring is the one in which the most intense competition occurs. In mammals, it is the females who carry the offspring before birth and nurse them afterward. The number of offspring that a female mammal can produce in any year is severely limited by the effort of gestation and lactation. Male mammals do not necessarily have such a heavy investment in each child. In many species, all the male contributes to his progeny is one sperm and the time it takes to copulate (three to four seconds in rhesus monkeys).

The potential reproductive success of a male mammal is thus much greater than that of any female. In a troop of monkeys or a herd of deer, a single adult male could father a dozen

or more offspring in one year while a female could only produce one. To do so, of course, he would have to fend off his randy brethren, but that may be possible if his canines or antlers are large enough (hence dimorphism). If successful, he will sire most of the offspring in a particular group and thus contribute disproportionately to the next generation.

This is an extreme situation. For most primates, and, happily, the majority of humans, fathering, like mothering, involves more than a chance copulation. In some species, fathers spend as much time and energy on their children as do mothers. While no male mammals carry their offspring around before birth (as male seahorses and certain frogs do), some carry them around for years after birth—take the siamang gibbons, for instance. While they cannot give milk to the infants, they *can* take the infants to food and show them what to eat.

Charming the Females

As we might expect, then, when males become indispensable in the rearing of young, most of the "nonmechanical" sexual differences in such things as teeth and size are reduced. This is not because competition among males for females is reduced. It is because competition among females for males is just as strong. Every female is looking for a "good man" as provider and protector. Hence, we get monogamous species organized into something close to nuclear families.

Sexual selection, Charles Darwin wrote in 1859, involves not only "the power to conquer other males in battle" but also "the power to charm the females." And, as recent research makes plain, the "power to charm the females" is usually complemented by the "power of females to manipulate the males."*

So much for contemporary monkeys and apes. Studying them may yield as many questions as clues, but many of the clues are solid. Of course, there are few "primate patterns" that we can ascribe with much assurance to our own heritage; the diversity is just too great. The best clues lie in the correlation we seem to find between the physical structure of the sexes within a species and that species' social organization. This, when consid-

*Other factors probably influence sexual dimorphism in contemporary primates. Larger species show greater sexual differentiation than smaller ones do, although we don't know why. Also, we know that feeding patterns can vary from sex to sex. A related factor is what are called "energy budgets." One might initially suspect that, because they are smaller, females of sexually dimorphic species would use less energy than the larger males. However, because they usually have the additional demands of pregnancy and lactation, the caloric and nutritional needs of a small female are often *greater* than those of the larger male. Is the smaller size of the female in part a compensation for these extra demands?

ered in conjunction with what we have learned of contemporary primitive societies, can aid us in reconstructing the behavior of our extinct human ancestors, creatures we encounter only through fragments of bone or an occasional stone tool.

Our earliest known direct ancestor was an animal called *Aegyptopithecus zeuxis*. It lived about 30 million years ago in forests alongside a large meandering river near the present day Nile in Egypt. We have many pieces of its jaw with lots of teeth; we have a skull; and we have various bones of the arm and foot. There is enough to suggest that *Aegyptopithecus* was a sexually dimorphic species with males having larger canines and a much larger body size than the females. From this we conclude, by analogy with extant primates, that *Aegyptopithecus* was not monogamous but rather lived in polygynous groups, groups with more breeding females than males. The amount of male investment in child care was relatively small.

Hunters and Gatherers?

By about 10 to 12 million years ago, we get the first vague inkling of hominids. The recognizable "humanity" of these creatures—generally called *Ramapithecus* or *Sivapithecus*—is minimal. Ramapithecenes were about the size of a chimpanzee. Like later humans, however, they seem to have had relatively broad, flat molar teeth and short broad canines. Unfortunately, the fossils from these animals are few and fragmentary, and it is virtually impossible to determine how many species are involved, much less the appearance of the two sexes of any one species.

Four million years ago, we finally come to creatures that are unquestionably hominids—members of our own family. The most famous hominid fossil is the partial skeleton of a young woman affectionately known as Lucy; the more formal name of the species she represents is *Australopithecus afarensis*, named after the Afar region of Ethiopia, where paleoanthropologist Donald Johanson of the Cleveland Museum of Natural History brought it to light in 1974.

Lucy, the most complete early hominid ever found, was about 3.5 feet tall. The males of the species were apparently much larger. These creatures had a small ape-like brain that was no bigger than an orange. Their teeth were not very sexually dimorphic. They were decidedly human in one very important regard—they walked upright on two legs. This fact was confirmed in 1976, with Mary Leakey's discovery of fossilized *Australopithecus* footprints at Laetoli in Tanzania.

What was the life of these early hominids like? How can we

explain the evolution of such distinctive human features as bipedalism and, later, tool use and increased brain size? And what, if anything, does sex have to do with it?

In the orthodox view of human evolution, early hominid society was seen to be based on an economy in which men hunted and women stayed home tending children, gathering wild vegetables, and awaiting the return of their husbands. Early hominids have frequently been described in terms that make them seem virtually identical to existing hunter-gatherer societies such as the !Kung bushmen of Southeast Africa—a definite injustice to both groups.

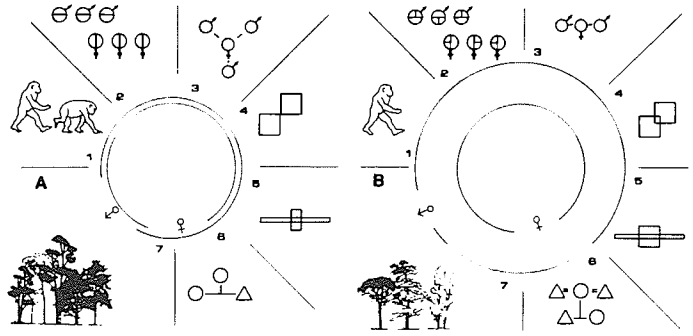
Recently this "man the hunter" image has been challenged on two fronts.

Adrienne Zihlman and Nancy Tanner, anthropologists at the University of California at Santa Cruz, rightly note that some of their colleagues, past and present, have shown an unwarranted male bias in their characterizations of living hunter-gatherer groups (and thus in their assessment of early hominid evolution). Women, they point out, provide the bulk of the food for these groups, for the meat supply is often unreliable. "Gatherer-hunter" is a more accurate description of their economies. Gathering by females, not male hunting, they argue, was probably the basic hominid adaptation. Bipedality, tool use, and increased intelligence all evolved in conjunction with this activity. (Zihlman speculates that the first "tool" may have been a sling "invented by mothers to carry their offspring who could not cling or walk.")

Why Intelligence Evolved

Zihlman and Tanner see *Australopithecus* as very much like the chimpanzee (with whose genes 98 percent of ours are identical). Females and their offspring formed a basic foraging unit, and males foraged independently. There was no rigid social structure but rather a loose cluster of kin groups centered about females. Early hominids were different from chimpanzees, they believe, in that males were relatively more cooperative with females and not so aggressive toward one another. But males and females did not form permanent social bonds. Both sexes were promiscuous, with females, not surprisingly, showing a preference for more altruistic, sociable males.

Owen Lovejoy of Kent State University has a very different view of *Australopithecus*. He agrees with Zihlman and Tanner that hunting is not the key to early hominid evolution—nor is tool use or increased brain size, since both appeared more than

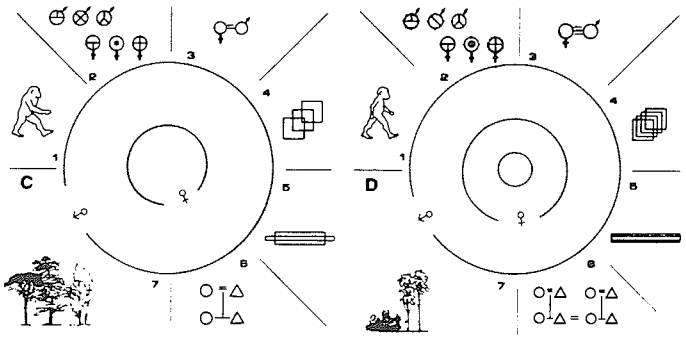


THE LOVEJOY MODEL: SEX AND HUMAN EVOLUTION DURING THE PLIOCENE AGE (5 to 2 million years ago)

These diagrams illustrate the evolving conditions that, in concert, may have produced a fully erect hominid—and a recognizable family unit. Section 1 of each traces the progress of erectness. Section 2 refers to "epigamic" differentiation: Secondary sex characteristics make individuals more distinctive. Greater sexual selectivity results, gradually promoting monogamy (3), and an ability to raise three or four children at a time instead of seeing one to adulthood, then bearing the next (4). In section 5, the long bar represents the menstrual cycle, the rectangle the female's period of sexual receptivity, which increasingly lengthens. Kinship relations are

a million years after *Australopithecus afarensis*.

In Lovejoy's model, the evolutionary "breakthrough" of early hominids and their divergence from the line leading to modern-day apes was due to increased reproductive abilities —in particular, male provisioning of women and children. Bipedality and the consequent freeing of the hands made it possible for *Australopithecus* males to forage far from home and bring back food to the females and dependent young. Spared the need to provide their own sustenance, females could do a better job of raising more children to maturity. The social organization would have been monogamous, assuring males that the mouths they fed belonged to their own offspring, not to someone else's. (The low canine dimorphism in *Australopithecus* supports this notion.) Lovejoy believes that the "intense social activity" of these family units—grooming, communicating, teaching the young—lies behind the rapid evolution of human intelligence.



By permission of C. Owen Lovejoy.

changing (6); the initial bond between mother and children expands into a family group with the male as responsible parent (circles and triangles denote males and females). All of this occurs within a changing environment (7), as tropicial rain forest gives way to open woodland and savanna. The circles at the center denote foraging and movement. The inner circle is the core area, where women and infants spend their time; outer circle is the male range. In Diagram A, the circles are nearly the same; the female is not being given food by the male and must find her own. In B, the male travels farther to leave more food at the core for the female—and her larger family. In C, the male is bringing food back to his mate; she forages less. Finally, in D, a permanent home base is established. The mother can leave infants in care of aunts or older daughters and range more widely herself.

Like Desmond Morris, author of *The Naked Ape*, Lovejoy also argues that monogamy promoted several features unique to humans. Evolution of a conspicuous penis in males and of prominent breasts and buttocks in females provided a degree of individuality and enhanced sexual attraction. The loss of the estrus cycle in human females meant that they were always sexually receptive; unaided by any external cues of fertility—i.e., going into heat—hominids had to copulate regularly to ensure conception. This, Lovejoy contends, "would increase pair-bond adhesion and serve as a social display asserting that bond."*

*In the loss of estrus, zoologist Sarah Hrdy sees more than a hint of female manipulation. Concealed ovulation may have allowed females to "confuse the issue of paternity" in order to "draw several different males into the web of possible progenitors." Then as now, such a situation had its advantages. A controversial review of the literature on loss of estrus and related topics can be found in Donald Symons, *The Evolution of Human Sexuality* (1979); Symons' views are challenged, or qualified, by Hrdy in "The Evolution of Human Sexuality: The Latest Word and the Last," *The Quarterly Review of Biology* (September 1979).

What about the extreme *size* dimorphism noted in several species of *Australopithecus*? According to Lovejoy, the larger size of the males, who spent longer periods of time traveling to and from food sources, gave them greater protection from predators; the smaller size of the stay-at-home females enabled them to better hide from their enemies (and, for good measure, reduced their caloric-protein requirements).

Sarah Hrdy and William Bennet of Harvard University have questioned Lovejoy's association of monogamy and extreme size dimorphism because of its rarity among other primates. Along with Walter Leutenegger at the University of Wisconsin, they suggest that *Australopithecus afarensis*, like other very dimorphic primates, was probably not a paragon of uxoriousness. What the polygyny theorists cannot explain is the lack of canine dimorphism in early hominids. If male-male competition was truly responsible for male-female size differences, why didn't it involve the large canines associated with "bluff and threat" tactics? Perhaps, as NYU anthropologist Cliff Jolly has suggested, canine reduction in hominids was unrelated to their social life and simply reflected dietary habits and the way they chewed their food.

Genes, Culture, Evolution

Sometime between one and two million years ago, *Homo erectus*, a member of our own genus, first appeared in Africa. *Homo erectus*, a very human-like creature, is almost invariably described as being similar to a living "hunter-gatherer," much to the dismay of Zihlman and Tanner who argue that there is no evidence for a heavy reliance on big-game hunting until about 500,000 years ago. Only then, they say, would a meaningful division of labor have appeared, as men killed the game, and women gathered fruits and vegetables and butchered the kills.

It would help to know how much bigger men were than women during this period, but that is something we just cannot establish. There aren't enough complete skeletons. Everyone agrees, however, that sexual dimorphism in *Homo erectus* was less than that in *Australopithecus*.

Homo erectus gave rise to *Homo sapiens* about 100,000 years ago. Among the extinct populations of our own species are the much-maligned Neanderthals, who lived in Western Europe between 100,000 and 40,000 years ago. These big-brained, heavily built people differed from contemporary humans in many ways, but sexual dimorphism was not one of them. Erik Trinkhaus of Harvard has shown conclusively that Neanderthal females

were, on average, about 10 percent smaller than males, which is about the same difference we find between men and women today. The same holds true for the Neanderthals' more successful contemporary, *Homo sapiens sapiens* (Cro-Magnon "Man").

By now, however, it no longer makes sense to look at humans from a purely paleontological point of view. The Neanderthals, for instance, inhabited a complex culture; they had language, religion, medicine. They probably wore clothes. Culture was a new way of passing on behavioral traits from one generation to the next. It was an evolutionary invention that enabled humans to adapt to new environments with even greater flexibility, and it rendered some previous adaptations obsolete. In a sense, then, human beings' behavior during the past 100,000 years evolved faster than did their bodies. For this reason, the leap by analogy from primate or hominid behavior to our own becomes especially treacherous, even if we concede that the roots of culture lie in our genes.

What meaning, then, does our long sexual evolution have for men and women in 1981? The answer is complicated and, even in terms of physiology, as yet incomplete.

Our basic mammalian heritage remains a fact of life. Differences in absolute size and strength continue to characterize men and women, although they have probably been decreasing for thousands of years, with men gradually becoming more like women. Such differences were more important in the past than they are now. In the West, and even in developing nations (where rural women have long engaged in arduous tasks), the male's physical advantage in size and strength seems increasingly irrelevant for all but a few jobs.

"The Twig Is a Little Bent"

Only women can bear and nurse children. "We may regret this fact, glory in it, or simply accept it," zoologist David Barash has written, "but it remains, nevertheless, an indelible part of our biology." Someone must also raise the kids; young primates cannot take care of themselves. Beyond birth, however, it no longer *has* to be the mother who invests the most time and energy in child care. Culture now provides other options.

Usually, however, it *is* the mother. Just as it is always the men who go to war, women's predominant role in the socialization of children is virtually universal. So is a division of labor by sex—a phenomenon, by the way, that need not be excoriated as exploitation. (A sexual division of labor in other animals usually means that the male is contributing more, not less, to his off-

spring's well-being.) We know that certain "male" and "female" traits—aggressiveness in the one, for example, and a maternal instinct in the other—were under positive selection for millions of years. Many of these differences are hormonally induced; men's and women's brains differ in this as in other ways. "At birth," E. O. Wilson has said, "the twig is already a little bent." For this reason, boys and girls brought up in a "neutral" environment would probably still end up behaving like boys and girls—a phenomenon documented among the !Kung San, who raise their children without regard to sex.

Most humans, however, are not brought up in a sexually neutral fashion, which brings us back to culture. The nature/nurture argument is a cliché, but that does not undermine the validity of the debate. All cultures have distinguished between men and women—usually but not always by reinforcing what sex differences there are. Most of what are now perceived as injustices done to women over the millennia can probably be laid at culture's door, bearing in mind that culture, at least in part, is a product of biology.

Hence, one should not look for simple explanations of sex differences in behavior. Our own evolutionary history is especially difficult to unravel, partly because of our biased viewpoint, and partly because, as bipedal, naked apes with big brains, we are so unlike any other mammal that no analogy is quite appropriate. But simple explanations, often tinged by ideology, are the currency of much popular writing on the subject. Some hold that sexual roles are genetically fixed in their entirety. Others would like to believe that all of the behavioral differences between the sexes are learned. Neither explanation is adequate, and both miss the important point: Sex differences, genetic or learned, need not lead to injustice. Of course, "need not" and "do not" are old foes.

We have a long evolutionary history of sexual differences both physical and cultural. Pretending that we don't is as foolish as pretending that those differences somehow paint us into a corner. Both genes and culture can change, but both are inherently conservative. Ultimately, history will show, I think, that genes prove to be more flexible than societies, that culture is the harder nut to crack.

A SURVEY OF THE RESEARCH

by Cullen Murphy

God fashioned Eve from Adam's rib, the Bible says, but scholars these days would turn the metaphor on its head. As psychologist June Machover Reinisch has put it, nature "imposes masculinity against the basic feminine trend of the body." That may be part of the reason why there is a 500 percent greater incidence of dyslexia in boys than in girls and why girls have more stamina. Then again, it may not. The scholars keep at it.

Stacked on a library table, the literature on sex differences in behavior and physiology published in scholarly journals during the 1970s by chemists, sociologists, physicians, and other researchers would stand about six feet high. That does not include a dozen or so reputable books, such as Eleanor Maccoby and Carol Nagy Jacklin's *Psychology of Sex Differences* and John Money's *Love and Love Sickness*.

As they peel the onion of sex, scholars have scrutinized males and females in the workplace, in the army, in the schools, and in the uterus. They have contemplated "deviance" as a clue to "normality" and drawn lessons from the experience of wallabies and coral-reef fish. Where the specialists have been less successful is in imposing theoretical order on our expanding body of knowledge. That men and women *do* differ, biologically, cognitively, and behaviorally, no one disputes—although such differences, it must be stressed, are usually not absolute but apparent only as averages when groups of men and women are compared. Yet, as psychologist Jeanette McGlone writes, "Questions such as 'Why?' and 'Does it matter?' remain unanswered."

Those two questions, of course, are what the fuss is all about. The staunchest believer in equal opportunities for both sexes will, if he or she is honest, concede that the real world is not Plato's cave. Rightly or wrongly, men and women have long assumed—and still assume—that differences in expectations and behavior exist between the sexes; over time, through countless adjustments and accommodations, they learned to live with what they thought those differences were, constructed their societies accordingly, came to depend on one another in different ways, to behave in one way when with one's own sex and another in mixed company.

During the past decade, scientists have probably quadru-

pled what is "known" about *biological* differences between the sexes. Men's and women's brains seem to be dissimilar in certain respects, but the human brain remains a mystery, and drawing inferences is like writing on sand. In some ways, social scientists are more helpful, at least in limning the broader implications of the way men and women behave. One fact that does emerge clearly—and here the research merely ratifies common sense—is that, regardless of their origin, gender-linked traits appear, and acquire significance, at varying ages for men and women.

Males, the Vulnerable Sex

It begins at fertilization. Men and women will never again be so much alike as they are during the first seven or eight weeks after conception. Until then, although the male possesses a "Y" chromosome in addition to an "X" (the female has a pair of Xs), male and female embryos appear identical. Scientists debated for years whether it was the distinctive Y or the extra X that prompted sexual divergence. It turns out to be primarily the Y.

The mechanics of this process are still not entirely clear. In essence, though, midway through the first trimester, the male embryo secretes a hormone that incites his previously undifferentiated gonads to develop into testes. These produce another hormone, testosterone, which in turn programs further development of male sex organs. If an XY embryo cannot produce testosterone, or cannot metabolize it, it is in for trouble and will develop, however quirkily, along a pre-programmed female line. In a sense, then, all human beings are female until something acts to make some of them male.

The likelihood of error in male development is extraordinary. About 140 boys are conceived for every 100 girls, but various defects cause most of those extra boys to succumb before birth. A differential remains even then (about 106 boys are born for every 100 girls), but males are more susceptible to childhood diseases. Boys are also more likely to stutter and to be colorblind. Males may be, as Henry Higgins put it, a "marvelous sex," but they are also exceedingly vulnerable.

The first connection between hormones and behavior was made long ago, in 1849, by the German scientist Arnold Berthold. Berthold discovered that castrated roosters stopped fighting and lost their interest in hens. Research into hormones and their effects intensified during the 1970s. In some nonmam-

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"Once upon a time, before everything got screwed up . . ." was the caption of this mid-1970s William Hamilton cartoon, as divorce rates grew.

mals, researchers discovered, the injection of male hormones (androgens) before birth can change a female into a male. Certain mature fish can change their sex when confronted with new environmental conditions. Nothing so extreme has been demonstrated in mammals, but female offspring of rhesus monkeys that have been heavily dosed with androgens do exhibit "male" behavior—"rough and tumble" play, for example, and the mounting of other females.

For ethical reasons, scientists do not conduct experiments on humans. Here, they have had to glean information from "experiments of nature"—e.g., children with brain damage, hermaphrodites—or by pondering the unexpected side effects of hormones administered to avoid toxemia of pregnancy. John Money of Johns Hopkins and Anke Ehrhardt at Columbia have studied girls with adrenal hyperplasia, an enzyme defect resulting in production of massive amounts of androgens. These girls, they found, became extreme "tomboys," were very athletic, and rarely played with dolls. Most studies confirm that boys, on the average, are more aggressive than girls, and most

studies indicate that testosterone probably has something to do with it. Hormones may not make certain types of behavior inevitable but merely, as John Money puts it, "lower the threshold so that it takes less of a push to switch you on to some behavior."*

Reading, Writing, 'Rithmetic

The male and female timetables continue to vary after birth. As neurologist Richard Restak has noted, girls at the age of four months are far more attentive than boys to "social contexts": faces, speech patterns, and tones of voice. Girls begin to talk sooner. Boys, on average, are the first on their feet; they have better total body coordination throughout their lives but somewhat less stamina. They are more curious, more active, and more mechanically inclined.

No one knows how much (if any) of this to attribute to chemistry, how much to child rearing. Parents treat boys and girls differently, and that difference rubs off. For example, if girls learn to talk earlier, it may be due primarily to the fact that most mothers spend more time chatting to their infant girls than to their baby boys. Hormones do leave an imprint on men's and women's livers, kidneys, and the nerve endings in their brains. They differentiate the hypothalamus into a male and female type. What scientists cannot establish is whether hormones account for the many observed differences in the way male and female brains work.

The most striking difference is in brain "lateralization." In right-handed people, the left hemisphere of the brain is primarily responsible for verbal skills, the right hemisphere for spatial-perceptual skills. But this lateralization is less pronounced in girls than in boys—so much so that in girls, one side of the brain seems to be able to make up for deficiencies in the other. Thus, girls have a lower incidence of dyslexia, aphasia, and infantile autism. Thanks to her neural "insurance," an adult woman will recover faster, and more completely, from a stroke.

As they progress through school, girls, on the whole, are superior in tests for verbal competence while boys do far better on spatial-perceptual tasks. Girls learn to read faster and are better at picking up foreign languages. Boys are far more proficient at, say, left-right discrimination, map-reading, and the manipulation of objects in space. Some scientists argue that male superiority in these areas may result simply from the way they are

*The study of the possible behavorial effects of sex hormones is complicated by the fact that there are three categories of them—androgen, estrogen, and progestin—and all three are found in varying degrees in men and women.

brought up: Outdoor activity, sports, and so on would all contribute to a "sense of place." Other researchers, reviewing the evidence from "experiments of nature" and other endocrine anomalies, detect a direct biological cause.

Male superiority in mathematics—demonstrated in study after study—remains a puzzle. Newsmagazines talk loosely about a male "math gene." Until the release of a Johns Hopkins study of 10,000 students earlier this year, most specialists were inclined toward a cultural explanation: Girls fared poorly in math because they were never encouraged, by parents or teachers, to do well. Some 71 percent of boys elect to take math in high school. Only 63 percent of girls do.

While "socialization" is clearly a major factor, the Johns Hopkins study found that the male-female difference in mathematical aptitude was greatest among the boys and girls who were *best* at math. When the mathematical portion of the Scholastic Aptitude Test was administered to eighth graders with equivalent math preparation, half of the boys but not one of the girls scored above 600. It is possible that boys' math proficiency is related to their spatial-perceptual acuity, but again, whether this trait is biologically "primed" is a matter of debate.

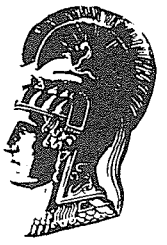
Different Creatures?

Women are far more sensitive than men to odors, tastes, and touch, as well as to extremes of light and sound. For example, they can detect Exaltolide (a musk-like odorant) when it is dispersed in quantities as low as one part per billion; the male threshold is 1,000 times higher. "It may be," conclude June Reinisch, Ronald Gandelman, and Frances Spiegel, "that males and females are essentially quite different creatures, whose perceptions of the world differ markedly even when confronted with similar physical environments."

It is not necessary to understand the origins of these differences in order to glimpse some of their down-to-earth implications, particularly for boys and girls starting elementary school. As some scientists and educators are beginning to point out, throwing both sexes together in a classroom and teaching them in the same way may be doing each sex an injustice.

Because of boys' greater spatial-perceptual skills and girls' superior verbal ability, it may be better to use the "look-say" method of teaching reading with the former and the "phonics" method with the latter. Schoolboys tend to be far more "hyperactive" than girls (95 percent of all clinically hyperactive children are male). One reason could be that the classroom envi-

THE PENTAGON'S BOLD EXPERIMENT



No other nation in history has moved so far so fast to *integrate* women into the military, traditionally a male precinct. Since 1972, the Pentagon has abolished the separate WACs, the WAVES, the Women Marines. It has admitted women into West Point and Annapolis (1976), ordered women to duty with the 82nd Airborne Division, sent them to sea (aboard non-combatant ships), and given them Air Force flight training. More often, women have been assigned to truck companies, logistics units, and Hawk missile crews. They are barred by statute or policy only from front-line combat, not from battle zones.

Why? Feminist lawsuits and congressional pressures followed the demise of the draft in 1972. The Army, in particular, found it hard to attract enough qualified, or even semi-qualified, male volunteers despite high monthly pay (now $551). Restoring the draft was political suicide. Under Presidents Nixon, Ford, and Carter, Pentagon civilians saw using more women as a way to fill the gap. And today, 158,000 servicewomen account for roughly nine percent of total Army strength, 11 percent of the Air Force, seven percent of the Navy, four percent of the Marine Corps. Under Carter, the overall goal was 250,000 women, or 12 percent of all service personnel, by 1985.

Anthropologists, sociologists, psychologists have flocked to study this radical—but not total—shift toward a "gender-neutral" military force. Statistics piled up. A 1977 Brookings Institution study suggested that, in theory, women could fill close to one-third of all Army jobs and 94 percent of all Air Force jobs. Not to move further in this direction, said the authors, would deny American women "equal opportunities for social and financial betterment."

As the studies went on, Army field commanders reported that the women were diligent, better educated, and better disciplined than were the males. However, they also discovered that women have babies; indeed, over the course of a year, Army women have a 14 percent pregnancy rate. Before 1975, pregnancy was cause for a woman's automatic discharge from the service. Now it is officially regarded only as a "temporary medical disability."

ronment is oriented more aurally/verbally than visually. Opportunities for rambunctious young males to work off steam are few. In the early grades, at least, school is geared to skills that come naturally to girls. Ninety percent of the time, the teacher is also a woman. In later grades, when certain subjects with a

What this meant was that, in the field, unit leaders now had to ponder their women soldiers' pregnancy status and child-care problems when scheduling training or overseas deployment. In 1979, Jimmy Carter's Army Secretary, Clifford Alexander, warned U.S. commanders in Europe that, in case of Soviet attack, they would have to evacuate an estimated 1,700 pregnant Army soldiers from the war zone at once (along with more than 200,000 U.S. military dependents).

Army studies showed that pregnancy helped boost the 1979 attrition rate of first-enlistment women soldiers to 40 percent versus 31 percent for their male counterparts—exacerbating an already high overall dropout rate under the all-volunteer system.

Contrary to the expectations of feminists and Pentagon civilians, women enlistees showed little interest in signing up for Army specialties long reserved for males, such as truck-driving or tending missiles. When assigned to such "nontraditional" tasks, they reenlisted at far lower rates than those women assigned to "traditional" women's work—in administrative, clerical, and health-care jobs—which could be pursued more easily later, in civilian life. (Indeed, men assigned to traditional women's tasks showed the same reluctance to stay on.)

Other matters were less susceptible to social scientists' statistical analysis. Congressional committees last year heard much testimony: about "fraternization," destructive of unit discipline, between senior males and junior females; instances of male GIs chivalrously doing the women's work in heavy-duty units—or harassing them; complaints that the presence of 300 women (among 4,000 male midshipmen) at Annapolis, long an incubator for male combat leaders, had led to a general "softening" and dual standards, resented by many men, of leadership, discipline, physical fitness. (The Marines segregate recruit training and much of officer training—and report high morale among both sexes.) Meanwhile, researchers argued that thousands of able-bodied men remained in rear-echelon office jobs where women could easily be substituted.

Last spring, under the Reagan administration, the Pentagon ordered a "pause" in the bold advance toward a largely "gender-neutral" Army, pending a major review of how well the new "nontraditional" use of women fitted the basic Army mission: readiness for combat.

heavy spatial-perceptual content are introduced—math and the sciences, for example—girls tend to lose their advantage. In these courses, too, the teacher is most often a man.

A radical overhaul of the educational system would cause more problems than it would solve. But some tinkering may be

in order. "The nerves that feed the brain," Virginia Woolf speculated in 1928, "would seem to differ in men and women, and if you are going to make them work their best and hardest, you must find out what treatment suits them."

The onset of puberty generally coincides with the three years of junior high school, but again the male-female timetable differs. In most girls, estrogen begins to build up in the body between the ages of 10 and 12; boys get their hormonal burst on average two years later. In both sexes, one result is a period of rapid physical growth, lasting for two to four years in girls and for six years or longer in boys—on into college.

Puberty is the second time in male and female lives that hormones exert a sudden, decisive, and unquestionable impact. In women, they control the onset of menstruation and regulate it thereafter until menopause. They determine the shape of the female pelvis and the level of body fat. (About 25 percent of the body weight of mature women is fat, compared to 14 percent for men.) Hormones spur sexual maturity in men and promote the growth of body and facial hair. The males' bones grow longer, their shoulders broader; they acquire 10 percent more heart and lung capacity than do females.*

Mirroring Society

During adolescence, the difference in verbal skills between men and women begins to narrow, but the gap in spatial-perceptual skills does not. Boys start getting better grades than girls do. Certain patterns in behavior and expectations continue to firm up. A window on these years is provided by the U.S. Department of Education's comprehensive *High School and Beyond* (1980), a survey of 58,000 secondary school students.

Not surprisingly, boys and girls in high school mirror the larger society. Already, the males have taken after-school jobs and entered the labor force in greater numbers than have the females; they are working longer at their part-time jobs (22.5 hours a week versus 18.6) and making more money ($3.38 per hour versus $2.99). By a margin of 64 to 41 percent, the boys are more likely to participate in school athletics; they have far more disciplinary problems. Girls are the mainstay of extracurricular activities other than sports. They spend more time reading (unless the reading matter is a newspaper) and talking on the

*All of this will give men an advantage in most sports—one that can be only partly offset by a woman's use of anabolic steroids (male hormones). In some sports, women excel. Their superior "fine motor" coordination makes them better shots at the target range. Women dominate long-distance swimming, thanks to their body fat (which gives them greater buoyancy and a layer of insulation) and their narrow shoulders (which lessen water resistance).

phone. (According to Ma Bell, the girls will, as adults, initiate 60 percent of all nonbusiness telephone conversations.)

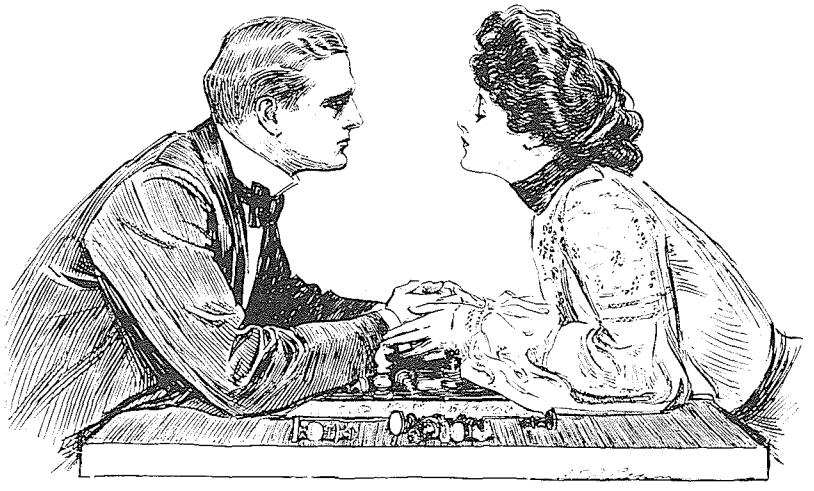
What about the future? Both sexes see themselves taking "traditional" jobs—the girls lean toward teaching and clerical work, for example; the boys indicate a taste for managerial and blue-collar jobs. High school girls are more concerned than boys about "finding the right person to marry," high school boys are more apt to envision "having lots of money." More boys than girls look forward to having no children at all; more girls than boys hope to have "four or more."

Who Drives the Car?

Scholars trying to account for such persistent contrasts do not, typically, invoke the Y chromosome. The numerous biological differences between the sexes are, admittedly, suggestive. It is hard to deny that, somehow, they flavor the way men and women think and act, if only by ensuring that the sexes are attracted to each other physically—a matter of no little consequence. It is harder, however, to perceive a significant link between biological differences and the proportion of high school boys behind the counter at McDonald's. The fact is, sex-role "stereotyping" leaves an indelible mark on males and females. Cultures where this does not occur can readily be found only in science fiction.

Human beings, generation after generation, have had no trouble encouraging boys to "act like boys" and girls to "act like girls." This continues to happen even as sociologists relentlessly track down, isolate, and "weight" all the variables that contribute to the process. How important is it that little boys play with toy soldiers and little girls with dolls, how much do parents have to do with it, and what long-term effects does it have? In school, boys are typically criticized by teachers for behavior problems; girls for deficiencies in their academic work. What special difference does this make? No one really knows.

Cultural pressure obviously has a cumulative impact over the years. Combined, perhaps, with genetic factors, it leaves women, on average, less assertive than men, more sensitive emotionally, more disposed to tackle some academic subjects than others. Occupationally, it often channels men and women into different kinds of jobs and puts far heavier pressure on men to win social status and self-esteem in the workplace. Our culture's "reinforcement" conditions males and females in subtler ways: in their interactions with one another (who asks for a date, who drives the car); in their relative outspokenness when



Drawing by Charles Dana Gibson.

The Greatest Game in the World—His Move, *by Charles Dana Gibson (1867–1944). It is still the male who asks for a woman's hand, still the female who allows him to believe the decision was entirely his.*

members of the other sex are present; in the tensions and satisfactions they may experience on the job; in the way they deal, as consumers, with salesmen, merchants, repairmen.

For good or ill, both men and women respond more favorably to a male "voice of authority," whether it belongs to a traffic cop or a corporate executive. The way they read newspaper articles is conditioned, too, with certain types of stories—crime, fashion, foreign affairs—variously gaining enhanced credibility according to whether the by-line is a man's or a woman's. Advertisers, aided by psychologists, aim most of their TV commercials at the female psyche, not only because women still do most of America's shopping but also because they watch more television—nine hours and 29 minutes more per week in the 35-to-54 age bracket. Male and female political behaviors continue to differ, although the difference is not as pronounced as it once was.

Unfortunately, for a variety of reasons, the actions and attitudes of adult men and women have not been studied as systematically as those of children and adolescents. Up through high school, boys and girls share certain common experiences. They are sequestered for large parts of their lives in public institu-

tions. The federal government has long sponsored sophisticated studies of children's social and educational development. And childhood learning and medical disabilities—often a clue to sex differences—have always been a focus of attention.

The Coeducation Paradox

Adults are a more diverse lot, their lives more complex. We have plenty of general statistics about men's and women's jobs and education. But in-depth research necessarily focuses on smaller, more cohesive groups of individuals. Here, the availability of funding and the "relevance" of the subject tend to favor some groups over others: men and women at "elite" universities rather than those at community colleges; women executives "climbing the corporate ladder" rather than women on the assembly line (and most people on assembly lines are women). Especially since the rise of the women's movement, researchers have been more interested in females than in males—a propensity that is less pronounced when boys and girls are the object of study.

That said, the existing studies do raise some intriguing questions.

One example involves higher education. By 1970, the historic education gap between men and women had virtually been eliminated. On average, both sexes finished high school and about half a year of college. At the same time, however, many of the nation's elite schools—ranging from small colleges such as Haverford to universities such as Princeton—remained "male bastions." Angry voices were raised, and, during the 1970s, despite alumni grumbling, all of the elite all-male institutions that had not already done so opened their doors to women.

A decade later, scholars have begun to assess the impact. So far, at any rate, it appears that equality of opportunity is not necessarily the surest path to similarity of outcome.

The most comprehensive study of the effects of coeducation was sponsored by Brown University and published in 1980. It was based on a survey of 3,300 men and women at Barnard, Brown, Dartmouth, Princeton, the State University of New York at Stony Brook, and Wellesley. One major finding was that women at coed schools tended, in effect, to lose much of their worldly ambition. They majored in fields where women had always done well—the humanities, the arts, the social sciences. While men and women aspired to graduate school in equal numbers, in practice the women aspirants experienced significant attrition. They seemed, in sum, "to be adjusting their plans

downward" to a greater extent than were men students.

Shortly after release of the Brown study, the Women's College Coalition, a Washington-based association, reported that America's 118 women's colleges had recovered from a brief slump and recorded a net enrollment increase of 15 percent since 1970. Up to 30 percent of the women at many of these schools were majoring in math and science. The report's message, though never bluntly stated, was that women's colleges were still uniquely equipped to motivate women to excel in the courtroom, the operating room, the boardroom.

Nothing to Fear but Success

Why has this been the case? The most obvious explanation is that coeducation, while it erases the sexual differential statistically, enhances it in practice. Researchers have long known that boys and girls are most likely to make "cross-sex" curricular choices when they are educated separately. Studies in Britain have demonstrated, rather common-sensically, that boys in secondary school can become rather taken with French, fine arts, and even cooking—given the reinforcement of 30 other males in the class. Similarly, girls in British single-sex boarding schools show an unusual affinity for math, physics, and athletics when the only other men around are "the school chaplain, two gardeners, the boilerman . . . the part-time tennis coach, and the headmistress's male dachshund."

Matina Horner, the president of Radcliffe College, has observed in many women a "motive to avoid success," rooted in a belief that femininity and intellectual achievement are "desired but mutually exclusive goals." From grade school on, the women who do best academically tend to be more assertive and aggressive than their female peers, while just the opposite is the case with boys: Margaret Mead versus Mr. Chips. Coeducation injects sexual tensions into that equation. Women are competing against men but also *for* men. And coed schools are often suffused with "hidden" inequalities; the proportion of female faculty is invariably lower than it is at women's colleges (where 51 percent of the tenured faculty are women).*

Whether they are attending single-sex or coeducational schools, most college women *say* they are willing to put their careers above marriage and children. Indeed, a 1980 *Change* mag-

*What does coeducation do for *men*? Comprehensive studies have not been done. Anecdotal evidence suggests only that males, in general, spend more time and energy on social life at mixed-sex institutions. That single-sex education still appeals to some men is attested to by the existence of 111 all-male colleges.

azine survey found that college women are more likely than men (87 to 82 percent) to consider a career "crucial" to their happiness. The entry of large numbers of women into the labor force beginning in the late 1960s—whether in search of a "career" or just a "job"—is among the most significant phenomena of the postwar era. As Peter Drucker has written: "We are busily unmaking one of the proudest social achievements of the 19th century, which was to take married women *out* of the work force so they could devote themselves to family and children."

About 39 million adult women, including 55 percent of all mothers, now hold full- or part-time jobs. While half of them are still employed in "traditionally female" jobs—those like stenography or teaching elementary school, where more than 80 percent of all workers are female—women have made extraordinary gains in virtually every occupation. One-third of all accountants today are female (versus one-sixth in 1960); one-half of all tailors and bus drivers are women, as are 33.5 percent of law school students (compared to 3.6 percent in 1963). While women physicians (10 percent of all M.D.s) still tend to shun careers in aerospace medicine or orthopedics, they are coming to dominate other medical specialties, such as obstetrics-gynecology.

Dropping Out

The impact of all this on American society has been immense. One reason that the unemployment rate is so high—7.5 percent in September 1981—is not because women are taking jobs that would otherwise go to men but because 1.8 million women are out "looking for work," which is the U.S. Labor Department's threshold for inclusion in the labor force. For a full-time working mother, raising a family can become a severe challenge. No survey shows that menfolk do their full share of the housework. Of course, there may be compensations. Few intact families where both the husband and wife work are below the poverty line. (Some 51 percent of all married couples are "dual-earner" families.) But 21 percent of all working mothers are without husbands, and 44 percent of these are living below the poverty level.

The income of women who work full-time is only 59 percent that of men—relatively less than it was in 1955. But it is by no means clear how much sex discrimination or, more important, the concentration of most women in low-paying occupations (e.g., nursing) can account for the earnings gap. France, West Germany, and Sweden are all experimenting with programs that would diversify women's employment and thereby elimi-

U.S. MEN AND WOMEN: SOME COMPARISONS

Health Women have a marked advantage in longevity over men—77.1 versus 69.3 years in the United States. In any given year, twice as many men as women die of heart disease, 50 percent more die of cancer. However, the average American woman pays two more visits to the doctor than a man does every year, and, as a group, females undergo 5 million more operations annually than do males. Throughout the industrial world, women evidence a far higher recorded incidence of depressive psychoses and psychoneuroses. But most alcoholics are men, and males have a 290 percent higher suicide rate than females.

Education There are currently more women than men in college (5.9 versus 5.7 million) but somewhat more men than women in graduate or professional school (862,000 versus 709,000). While women stay numerically abreast of men through the master's degree level, males earn about 70 percent of all Ph.Ds. Fewer than 13 percent of doctoral degrees awarded in 1980 in mathematics or the physical sciences were granted to women.

Crime For all races, ages, and income levels, men are far more likely to commit a criminal act than are women (except for prostitution); only one out of five serious crimes—murder, robbery, arson—are committed by women. In 1979, some eight million arrests were made for various offenses; women accounted for 1.3 million of them. But women's arrest rates are growing in virtually all nonviolent categories and, overall, are rising faster than men's. Some of women's gains reflect increased employment opportunities—e.g., the 24 percent increase in embezzlement by females in 1979.

Employment Of 98.8 million working Americans, 38.9 million are women. Men and women are represented in *every* occupational category, but the percentages vary. Only one percent of the nation's 48,000 kindergarten teachers are men; only 0.01 percent of the 554,000 auto mechanics are women. Contrary to popular belief, the earnings gap between men and women is greatest in traditionally male jobs (law, medicine), smallest in traditionally female jobs (teaching, nursing).

Politics Men were more likely to go to the polls than women until the 1980 election, when women cast slightly more than their share of the 86.5 million votes for President. On balance, women lean more toward the Democratic Party than do men and are more likely to consider themselves liberals. The margin, however, is slight. Whether a political candidate is a woman does not seem to affect the way men or women cast their ballots. This was not always so. Through the 1950s and '60s, women tended, disproportionately, to shun candidates of their own sex, for reasons that remain unclear.

nate the "parallel labor market." But such experiments fail to address a central problem: Female labor force participation slumps deeply between the ages of 25 and 35 as women bear and rear their children. As economist Lester C. Thurow observes, "If there is any one decade when it pays to work hard and be consistently in the labor force it is the decade between 25 and 35." This is when lawyers become partners, academics get tenure, blue-collar workers become supervisors or acquire new skills, and businessmen move onto a "fast track." "For those who succeed," Thurow says, "earnings will rise rapidly. For those who fail, earnings will remain flat for the rest of their lives."*

The XYZ Affair

All of women's gains during the past decade have not erased this basic fact. Nor has the advent of effective contraception, which made *regular* employment possible for many women, dampened the urge to bear children. Increasing numbers of women, who entered the labor force five or 10 years ago telling pollsters and reporters that the most important thing to them was proving themselves on the job, can now be found proudly showing off their new babies in the maternity wards.

The *Wall Street Journal* reported recently on firms that were being disrupted by a wave of pregnancy leaves at the managerial level. Between 1972 and 1980, the number of women in their 30s having children grew from 57,000 to 104,000. The mean age of mothers at Chicago's Northwestern Memorial Hospital is now 33. Many women-executives-turned-mothers drop out of the labor force until their children have grown up; of those who return to work right away, a large proportion opt for a "slower track."

The phenomenon is not confined to the executive suite. In 1980, Carl Hoffman and John Shelton Reed reported on the strange case of the XYZ Corporation. XYZ (the pseudonym for a "*Fortune* 500" company) had been charged by several female employees with sex discrimination and taken to court. It seemed to be an open and shut case: While 82 percent of entry-level clerical jobs in the company were held by women at XYZ, their promotion rates lagged far behind men's.

Hoffman and Reed found, however, that the female clerks were far more likely than the males to be content with their present jobs. When asked if they would like a promotion, only 43

*Part of the current earnings gap—an unquantifiable part—is a statistical artifact resulting from women's recent *gains* in the labor force. Because millions of young women are just starting out—often in jobs traditionally held by young men—their wages and salaries reflect entry-level status. Young women account for 13.5 percent of Harvard's Faculty of Arts and Sciences but hold only 3.3 percent of the 356 tenured chairs—so far.

percent of the women (versus 74 percent of the men) said yes. The tendency was most pronounced among women who were married. Fearing that enhanced responsibility would cut into the time they could spend with their families, only 12 percent of them ever sought a promotion. They rarely worked overtime.

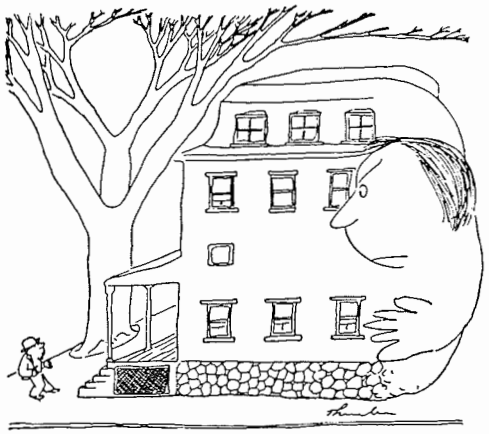
Theory vs. Reality

"Even after all discrimination, blatant and subtle, is eliminated," the authors conclude, "'imbalances' will persist as a result of the tendencies of men and women to make different choices, even when given the same range of alternatives to choose from." In Sweden, women are far more likely than men to pick jobs with shorter workdays when given the choice. In America, some 75 percent of all part-time jobs are held by women, and 29 percent of all working women work part-time.*

This raises some thorny questions about "affirmative action." Viewed in the aggregate, men and women demonstrate different attitudes toward work. If only because their careers are not interrupted by pregnancy, men, as a group, advance faster than women, as a group. And, again as groups, men and women variously favor some occupations and shun others; not in our children's lifetime will half of all physicists be women. In light of all this, how realistic are numerical hiring and promotion goals for corporations, factories, universities? As some scholars note, it may be that the chief problem now is at the level not of aggregates but of individuals: ensuring true equal opportunity for those women whose ambitions *do not* conform to the norms of their sex; who are determined, whatever the cost, to compete with men in occupations that may always be dominated by men.

Over time, at least two choices that working women must make have far more ramifications than the same choices when faced by men: whether to get married; whether to have children. It is probably no coincidence that a 1976 Harvard University survey of its junior faculty revealed that 61 percent of the institution's married women professors had no children compared to only 32 percent of their male peers. It is perhaps no coincidence, either, that virtually every male chief executive officer of a major American company is currently married, while 54 percent of the female CEOs are divorced or never married.

*This difference in motivation—or in priorities—also shows up when men enter "traditionally female" jobs. It is a little noticed phenomenon, but between 1972 and 1978, the number of male secretaries rose by 24 percent, telephone operators by 38 percent, and nurses by 94 percent. (Their total numbers are still small, however.) According to the *Wall Street Journal*, the men in these jobs are often getting promoted faster than the women.



Home, *by James Thurber (1894–1961). Do women still rule the roost? Possibly. But in only 33 percent of married couples does the husband go off to a job while his wife stays at home.*

There are, perhaps, other kinds of tradeoffs. A recent study of 123 women who graduated from business schools in 1977 and 1978 found that they were "paying a price" for success. They demonstrated significantly more stress than their male colleagues, much of it due to worry about how things were going at home. (Other studies, however, suggest that holding a job may improve a woman's mental health.) Although it is impossible to say whether more employment has anything to do with it, women's overall *physical* health has deteriorated relative to men's during the past 30 years. They are suffering from more ulcers and respiratory ailments than ever before. They have not been as quick as men to quit smoking. "Adult women," writes the University of Michigan's Lois M. Verbrugge, "are adopting lifestyles which bode ill for their longevity." They are, in short, behaving more like men.

We do not live in an ideal world and rarely agree on what an ideal world would be. Even when we do agree on some incremental "improvement," it is generally difficult to bring about. For example, every bit of poll data indicates much rethinking by employers, employees, and ordinary citizens about the relative capabilities of men and women. The old notion that "a woman's place is in the home" finds a dwindling number of adherents. If the Gallup Poll's measure of people's ideals were an accurate reflection of their behavior, the National Organization for Women might have disbanded long ago for lack of new fields to conquer. In fact, as everyone knows, human beings take a more personal, less abstract approach to their own lives. "Give me chastity," St. Augustine prayed, "but not yet."

At a time when many popular attitudes are slowly, unevenly changing, when legal and social barriers to women's autonomy and advancement are falling, and when American society is patiently absorbing the resultant aftershocks, it is sometimes easy to overlook the things that never change. Men and women still manage to fall in love, still seem to draw some special comfort from one another that they don't get from their own sex. They still get married and have children, and enjoy their little boys and girls in different ways. Having both a mother and a father at home is still the best way for a child to grow up; single-parent households are, statistically, candidates for trouble and, collectively, a troublesome burden on the larger society. Biology aside, despite the misunderstandings and injustices they have imposed, differences between the sexes contribute something vital to our lives and essential to our civilization. For most people, in the end, being male or female is not a circumstance to be overcome but one to be savored, and the odds are good that this useful sentiment will long survive.

A NOTE ON SOURCES: This essay has been drawn from more than 100 studies published in scholarly journals during the past decade, as well as from numerous books (treated in the Background Books essay), and from reports appearing in the *New York Times* and the *Wall Street Journal*. The most useful studies for the general reader include the following: nine articles in a special issue of *Science* (Mar. 20, 1981) on the current understanding of sex differences with respect to ontogeny, phenotype, and hormone-sensitive actions; Gini Bara Kolata, "Sex Hormones and Brain Development," *Science*, Sept. 7, 1979; June Machover Reinisch, "Influence of Early Exposure to Steroid Hormones on Behavioral Development," paper delivered to the Postgraduate Assembly of the Endocrine Society, New York, N.Y., Oct. 1980; Eleanor E. Maccoby and Carol Nagy Jacklin, "Sex Differences in Aggression: A Rejoinder," *Child Development*, no. 51, 1980; Camilla Persson Benbow and Julian C. Stanley, "Sex Differences in Mathematical Reasoning Ability: A Five-Year Longitudinal Study," The Johns Hopkins University, Baltimore, Md. (1980); Sandra F. Witelson, "Sex Differences in the Neurology of Cognition: Psychological, Social, Educational, and Clinical Implications," in E. Sullerot, ed., *The Feminine Situation* (1981); U.S. Dept. of Education, *High School and Beyond: A Capsule Description of High School Students* (1980); Brown University, *Men and Women Learning Together* (1980); Women's College Coalition, *A Study of the Learning Environment at Women's Colleges* (1981); Warren E. Miller, Arthur H. Miller, and Edward J. Schneider, *American National Election Studies Data Sourcebook*, 1952–78 (1980); Carl Hoffman and John Shelton Reed, "Sex Discrimination?—the XYZ Affair," *The Public Interest*, Winter 1981; Laraine T. Zappert and Harvey M. Weinstein, "Sex Differences in Adaptation to Work," paper delivered to a meeting of the American Psychological Association, Montreal, 1981; Kathleen V. Shea, "Psychological Health of High-Achieving Women Executives," Northwestern University (1979); Ronald C. Kessler and James A. McRae, Jr., "Trends in the Relationship Between Sex and Psychological Distress: 1957–1976," *American Sociological Review*, Aug. 1981; Lois M. Verbrugge, "Recent Trends in Sex Mortality Differentials in the United States," *Women and Health*, Fall 1980. All statistical data on employment and education are from the U.S. Department of Labor and the U. S. Department of Education.

THE SEXES AND THE LAW

by A. E. Dick Howard

Given the infinity of reasons why men and women may invoke the law, it is intriguing to discover that eight of the opinions handed down by the U.S. Supreme Court during the term ending in 1981 turned directly on issues of gender.

In fiscal year 1981, the Equal Employment Opportunity Commission filed 129 sex discrimination suits and processed 2,303 complaints lodged under the Equal Pay Act. Several hundred "palimony" suits were working their way through the courts. An Oregon man was charged by his wife with rape (but acquitted). All around the country, groups such as the Women's Legal Defense Fund approached legislatures and the bench to combat sex discrimination—on the job, in academe, at the bank—and to press their various views on women's status generally. Small counter-organizations of men began to appear. During the 1970s, in short, gender moved into the courtroom, vying for the place occupied by race the decade before.

Today, it is sometimes hard to see the forest for the trees. Legal relations between the sexes—and the various rights and obligations of men and women *as* men and women—are codified in thousands of federal, state, and local laws, in a maze of bureaucratic regulations, in union contracts and university guidelines. These vary widely. And, owing to pressures from women and men, the rules of the game are always being modified. Thus, while most Americans can hardly be unaware that matters of gender have become courtroom issues, it is difficult to get a clear sense of what *has* happened during the past decade or so and what *has not.* Some perspective is in order.

The legal status of women during the 19th century, in America as elsewhere in the world, was one of considerable inequality. Women could not vote or sit in legislative bodies, and they were absent from bench, bar, and jury. The rights of a married woman (for example, over the property she might have brought to the union) were severely circumscribed. The old Blackstonian precept was invoked—that a woman's "very being . . . is suspended during marriage." In law, husband and wife were one, and the husband was The One.

Such strictures were not whimsical, even if they were misguided. "Nature," wrote physician Alexander Walker in 1839,

"for the preservation of the human species, has conferred on woman a sacred character to which man naturally and irresistably . . . renders a true worship." In the conventional (male *and* female) view of the time, women, however influential or capable in the home, needed to be insulated from certain worldly pressures and duties. Sometimes, they merited special legal protections that men were not granted. In *Muller* v. *Oregon* (1908), the Supreme Court upheld a state law limiting a woman's workday to 10 hours, despite the fact that in 1905 it had struck down a similar law that applied to both men and women. In the event of divorce, women were given preference in child custody, and family support was presumptively the father's obligation.

Unrest at Seneca Falls

There was, then, a certain philosophical consistency uniting these restrictive and protective measures: a belief in the uniqueness of each sex, and thus in the special role played by each in society. To shield women, especially mothers, from some of the economic and physical stresses of the 19th-century world was regarded as "enlightened" by the liberals of the day. That women of all ages and experience were also barred from full participation in politics was simply not seen by many members of either sex as a matter of much urgency.

Some women were, of course, restless under such a regime. In 1848, the first women's rights convention in the United States was held at Seneca Falls, New York, and Elizabeth Cady Stanton's litany of complaints focused in particular upon women's unequal legal status. The Seneca Falls delegates met during the same year that abortive socialist uprisings were sweeping Western Europe. Each had about the same immediate impact on the formal social order, which is to say virtually none. In the aftermath of the American Civil War, Congress passed and the states ratified the Fourteenth Amendment (1868), securing the legal rights of the newly freed slaves, but not disturbing the existing

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From Harper's Weekly, *April 28, 1866.* *Library of Congress.*

The Fourteenth Amendment passed in 1866, guaranteeing blacks' civil rights. Feminists rejoiced. If race was irrelevant, could sex be far behind?

status of women. Indeed, Section 2 spoke specifically of "male citizens," and some women opposed ratification of the amendment hoping to forestall the first appearance of the word "male" in the Constitution.

During the next nine decades, the Supreme Court heard only a few cases involving the rights of women, and its decisions amounted to a string of rebuffs. In *Bradwell* v. *Illinois* (1873), the Court upheld Illinois's power to prohibit women from practicing law. Two years later, the Justices ruled that male-only suffrage did not infringe upon women's rights as citizens. In 1948, in *Goesart* v. *Cleary*, the Court upheld a Michigan law providing that a woman could obtain a bartender's license only if she were the wife or daughter of the male owner of a licensed liquor establishment. And in *Hoyt* v. *Florida*, the Supreme Court readily affirmed the constitutionality of a state law that provided, in substance, that no woman would serve on a jury unless she volunteered for duty. That was in 1961, the first year of John F. Kennedy's New Frontier.

Lest one lose perspective, we should recall that, outside the area of race, the Court was slow to use the Fourteenth Amendment's "equal protection" or "privileges and immunities"

clauses to limit government power in general. Mrs. Bradwell's effort to invoke the privileges and immunities clause failed, but so did virtually every *man* fail who tried to gain redress by invoking the same clause. Still, the Court's decisions on gender distinctions were flavored by assumptions about woman's "separate place." A classic example is Justice Joseph B. Bradley's concurring 1873 opinion in *Bradwell:* "The paramount destiny and mission of woman are to fulfill the noble and benign offices of wife and mother. This is the law of the Creator."

Later, during the years of the "activist" Warren Court (1953–69), when the Justices were employing the equal protection clause to achieve sweeping change in legislative reapportionment, civil rights, and criminal justice, distinctions based on gender were allowed to stand.

It was not until the 1970s that the Court began to use the Constitution to redress sex discrimination. By then, Presidents, Congresses, and state legislatures had been dealing with the matter for a decade, setting in place a variety of measures that dramatically altered the legal perquisites of women.

In terms of Washington's formal recognition that sex discrimination was a problem, impetus was provided by President John F. Kennedy's Commission on the Status of Women (1961), chaired by Eleanor Roosevelt. The commission urged women's groups to start challenging discriminatory laws in the courts and to press their claims in Congress. One result was the Equal Pay Act of 1963, which established the principle of "equal pay for equal work." The next year, Title VII of the Civil Rights Act prohibited discrimination on the basis of both race and sex (although the words "and sex" had been added to the bill at the last minute by Southern Congressmen who believed, wrongly as it turned out, that this broadening of the act's coverage would ensure its defeat). In 1967, President Lyndon B. Johnson amended Executive Order 11246 to extend "affirmative action"—a notion first introduced by Kennedy—to women.*

Under President Richard M. Nixon, the Equal Pay Act and the Civil Rights Act were strengthened. In 1972, Congress passed an Equal Rights Amendment, sought by women's groups since 1923, and sent it to the states for ratification.† Meanwhile, anti-

*As originally conceived by JFK, affirmative action meant little more than that business corporations should recruit at black colleges and establish informal ties with minority organizations. The concept has, of course, evolved since then into a controversial, complex compensatory scheme characterized by numerical "goals" and "timetables" set by bureaucrats, legislatures, and courts.

†Section 1 of the amendment states simply that "Equality of rights under the law shall not be denied or abridged by the United States or by any State on account of sex."

discrimination provisions routinely began appearing in such diverse legislation as the Comprehensive Employment and Training Act (1973), the Crime Control Act (1973), and the Disaster Relief Act (1974).

These federal efforts came at a time when new or revived controversies—over contraception, abortion, sexual permissiveness, women's obligations to self and family—were beginning to emerge and as books such as Betty Friedan's *The Feminine Mystique* (1963) and Kate Millett's *Sexual Politics* (1971) were helping to rekindle and fortify a long dormant "women's liberation" movement. The National Organization for Women was founded in 1966, just as a massive new influx of women into the job market was beginning.

Is Sex Like Race?

Not surprisingly, by the early 1970s, challenges to gender distinctions were finding their way to the Supreme Court's calendar in record numbers. The Burger Court's response, at first, was tentative.

In equal protection cases, the Warren Court had evolved a "two-tiered" standard. In all cases involving racial discrimination, the Court closely scrutinized a challenged state action, putting the burden of proof on the state to justify the use of a racial classification by showing some "compelling state interest." Such a standard was virtually impossible for a state to satisfy. In other equal protection cases, however, the Court applied a much more permissive test: Was there a "rational basis" for the classification? This standard was quite easy to satisfy.

In the sex discrimination cases coming before the Burger Court, a key question was whether classifications by sex should be judged by the same "strict scrutiny" standard that applied in race cases.

In 1973 *(Frontiero* v. *Richardson),* four Justices argued for just such a standard. They contended that sex, like race, is an immutable characteristic; that sex frequently bears no relation to ability; and that gender classifications were inherently suspect. While a majority of the Justices in *Frontiero* refused to embrace strict scrutiny, they did strike down the challenged law—a federal statute automatically allowing a serviceman to claim his wife as a dependent, but requiring a service*woman* to prove her husband's actual dependency in order to claim him. Obviously, something was in the wind.

Since 1973, cases involving alleged gender discrimination have crowded the Court's docket. In most of these, the Court has

STATE ERAs: GUIDE TO THE FUTURE?

Proponents of a federal Equal Rights Amendment contend that ERA would give courts "a clear basis for dealing with sex discrimination." They often point to the record of states that have adopted equal rights amendments to their own constitutions. In fact, the impact of state ERAs is not so clear-cut.

All told, 17 states now have constitutional provisions prohibiting gender-based discrimination. Ironically, four of these states have refused to ratify the federal ERA; two of them never ratified the Nineteenth Amendment, which gave women the vote in 1920.

Application of home-grown ERAs differs from state to state; some states without such amendments are more progressive than are some states that have them. Virginia's judges have taken a tolerant view of gender distinctions, despite the clear legislative intention in 1971 that the state's new ERA be strictly interpreted. Yet courts in California, which has no ERA, have methodically struck down sex-based statutes, without any explicit constitutional basis for doing so.

In some states, judges rely on the "rational basis" requirement: To be constitutional, a law with gender-based distinctions need only bear a rational relation to a legitimate state objective. This renders a state ERA virtually irrelevant. Thus, the Louisiana Supreme Court in 1975 *(Louisiana* v. *Barton)* rejected the argument of a husband, charged with "criminal neglect" of his wife, that the relevant statute violated the state's ERA because it applied only to men. "It presently remains a fact of life," the justices concluded, "that . . . the husband is invariably the means of support for the couple."

In other ERA states, judges apply a stiffer "strict scrutiny" test. The Illinois Supreme Court, for example, in 1974 declared unconstitutional the principle of "maternal preference" in child custody awards, even when children of "tender age" are involved *(Marcus* v. *Marcus)*. Courts in Pennsylvania and Washington have struck down laws prohibiting interscholastic athletic competition between boys and girls. (Contact sports were not exempted—as they are in federal anti-discrimination regulations.)

By and large, state courts have reflected the piecemeal approach of the U.S. Supreme Court, judging cases on their merits and applying no rigid principles, regardless of the existence of state ERAs. Absolute "equality" has sometimes yielded to a woman's (or man's) right to privacy. Five ERA states have upheld a sex-based definition of rape, citing women's "unique physical characteristics." The chief impact of state ERAs has been to goad legislatures into rewriting laws. Courts have not been flooded by lawsuits.

When people *have* gone to court, a state ERA has tended to be what the courts made of it. What they made of it was often patterned on principle but stitched with the "facts of life."

upheld the "equal rights" claim. In so doing, the Justices have struck down laws that, for example, required women school teachers to take mandatory pregnancy leaves, virtually excluded women from juries, and assigned different ages of majority to men and women. During the 1978 term, eight Supreme Court cases involved sex discrimination. In six of them, the ruling favored the claim alleging sex discrimination. Some of these cases, interestingly, were brought by men. Thus, in *Orr* v. *Orr*, the Court struck down an Alabama law stipulating that only husbands could pay alimony.

While moving to an "intermediate" level of scrutiny—demanding that gender classifications be justified not simply by pointing to a "rational basis" but by showing that they serve "important governmental objectives"—the Court has stated that distinctions based on sex *may* be valid if they are somehow compensatory. Thus, in 1974, the Court upheld a Florida law granting a $500 property tax exemption to widows but not to widowers; Justice William O. Douglas concluded that the statute was "reasonably designed to [cushion] the financial impact of spousal loss upon the sex for which that loss imposes a disproportionately heavy burden." A year later, in *Schlesinger* v. *Ballard*, the Justices rejected a male naval officer's attack on a military "up-or-out" promotion system giving a female a longer time in grade before being discharged for want of promotion.

In more recent decisions, however, the Court has been somewhat stickier about requiring proof that a scheme of preference really is intended to be compensatory. *Orr* v. *Orr*, the alimony case cited above, is an example. Justice William J. Brennan, Jr. noted in his opinion that such statutes *favoring* women risk "reinforcing stereotypes about the 'proper place' of women and their need for special protection."

The Abortion Cases

Some of the most controversial rebuffs to female litigants have come when the Court has decided that a certain classification is not based on gender at all. In *General Electric* v. *Gilbert* (1976), the Court affirmed the legality of an employee insurance plan that excluded pregnancy-related disabilities. The Justices reasoned that the exclusion divided beneficiaries into two groups based not on *sex* but on *pregnancy*, with the "pool" of nonpregnant persons including both men and women. In 1979, the Court upheld a Massachusetts law giving veterans preference (in hiring by government), contending that the classification was based on military service, not sex; as it happened, only

two percent of veterans in Massachusetts were female.

Allegations of sex discrimination by no means exhaust the gender cases coming before the Supreme Court. The most important single decision by the Burger Court involving the status of women is surely *Roe* v. *Wade* (1973), affirming a woman's constitutional right to have an abortion during the early stages of pregnancy. Predicated on the notion of a woman's right to control her own body, *Roe* has enormous implications as a measure of contemporary thinking about the status of women. This decision was bolstered in *Planned Parenthood of Missouri* v. *Danforth* (1976), when the Justices declared, among other things, that a husband has no right to veto a wife's decision to have or not have an abortion. Should a man be liable for support of a child he did not want and which a woman insisted upon having over his objections? This touchy issue is now cropping up in lower courts.

Three Steps Back

The Supreme Court has also decided a series of "personal autonomy" cases, holding that certain intimate decisions (e.g., the use of contraceptives, even by minors) are protected by the Constitution. Because so many of the autonomy rulings relate to family life and childbearing, they tend to reinforce the change in thinking about women's place in society generally.

All told, the Supreme Court's equal rights and sex discrimination cases point up the sociological interplay between court and country. This is not to say that the Justices follow the election returns; that is a notion that distorts the reality of the judicial process. Yet, while the Court may not veer with the weather of the day, it is affected by the climate of the age. Changes in America's social values will ultimately be acknowledged in Supreme Court decisions.

An obvious question, then, is what effect the recent upsurge in conservative sentiment will have on future court cases. Affirmative action regulations, for example, which continue to stir considerable resentment among businessmen and educators, are part of the red tape the Reagan administration has vowed to trim. The Equal Rights Amendment, which got off to a fast start a decade ago, has now bogged down.

Some of the Supreme Court's most recent decisions seem to indicate a retrenchment of sorts. While standing by their 1973 abortion decision, the Justices ruled in 1977 that neither the states nor Congress is obliged to fund nontherapeutic abortions with public money and that public hospitals could refuse to per-

form such abortions. In 1980, the Court upheld the Hyde Amendment, which cut off federal funding for most abortions.

In the area of sex discrimination specifically, the 1980 Court term yielded several decisions that some see as signaling a new direction. In the most noted case, *Rostker* v. *Goldberg*, the Supreme Court upheld the constitutionality of all-male draft registration. Although Justice William H. Rehnquist invoked "intermediate scrutiny," he upheld the federal law by raising the question of whether, for the purposes of the statute, men and women are "similarly situated." For military purposes, Rehnquist concluded, they are not, because various laws and policies bar women from serving in combat. Earlier in the same term, Rehnquist had written a decision *(Michael M.* v. *Superior Court of Sonoma County)* rejecting a constitutional challenge to a California law punishing men, but not women, for having sex with an under-age partner. There, too, he invoked the "similarly situated" criterion—only women can get pregnant. In a third case *(Russell* v. *Russell)*, the Court held that a military pension, as the "personal entitlement" of the person who earns it, may not become part of the property settlement in a divorce.

While the National Organization for Women has complained that such decisions give a "governmental imprimatur" to sex discrimination, none of these cases necessarily undermines the position staked out by the Court in its previous rulings. In two of the three cases—those involving rape and draft registration—men were the alleged "victims," charging that *their* rights were being violated. The pension case, like the earlier Massachusetts veterans preference case, did not turn on a gender distinction at all, the Justices concluded. Moreover, the draft decision stemmed largely from the Court's historic reluctance to intervene where Congress has made judgments about military preparedness.

Room to Maneuver

The outcome of another sex discrimination case decided by the Court in the same term offers evidence that the Justices are not backing away from a basic commitment to equal rights. In *County of Washington* v. *Gunther* (1981), the Court rejected the argument that in suits alleging job discrimination brought under Title VII of the Civil Rights Act of 1964, a plaintiff must limit his or her claim to seeking "equal pay for equal work"—the standard set by the Equal Pay Act of 1963. Rather, the Court said, litigants are also free to sue for equal pay for "comparable" work. (*County of Washington* was brought by "matrons" in Ore-

Our case for sex discrimination.

Aetna Life & Casualty.

Treating men and women equally can be unjust, argues Aetna Life & Casualty in this 1981 advertisement. "Consider the nearly double crack-up rate of male drivers 25 and under versus female drivers 25 and under." With unisex rates, "Sister Sue would pay 40 percent more for auto insurance. Brother Bob could pay 20 percent less. Unfair!"

gon who guarded female prisoners and were paid $200 less per month than male "deputies" who guarded male prisoners.) The Court's decision here could pave the way for a series of "comparable worth" lawsuits.

In its case-by-case adjudication of sex discrimination issues, the Supreme Court during the 1970s articulated no broad new concept of the Constitution. However, several generalizations emerge from the decisions of the past decade that at least provide some useful guidelines.

First, the Court has greatly curbed legislative power to pass laws embodying gender distinctions where there is no "important government objective." Today, there is no legitimate state objective in keeping women off juries or out of bars, any more than there is in keeping them away from the polls. As a result of the abandonment of old stereotypes, hundreds of suspect state and federal laws have been wiped off the books. This constitutes a minor revolution.

Second, the Court has determined that there may exist a compelling state interest in treating women more favorably than men—to compensate for the effects of past discrimination. However, it has applied this notion fastidiously, leaving ample room for men to challenge laws that, in certain circumstances,

benefit females but not males who are similarly situated.

Third, implicit in much of the above, the Court has affirmed the legislature's right to make *some* distinctions based on gender—when an important governmental objective is at stake. In *Parham* v. *Hughes* (1979), the Justices upheld a Georgia law that only the mother of an illegitimate child could sue for its wrongful death. Observing that paternity but not maternity may be in doubt, they reasoned that Georgia had a legitimate interest in preventing spurious lawsuits. As Justice Lewis F. Powell, Jr. has written, discrimination by sex is not "inherently odious," and the Court recognizes the remaining room for legislative judgment in this area.

So far, the Supreme Court has not reviewed the issue of sex-based differences in insurance rates and pension benefits. In general, women enjoy lower premiums than men on life insurance (because they live longer); women under age 25 pay less for automobile insurance than their male counterparts (because they have about 50 percent fewer accidents). They pay more for disability insurance than do men (because their average claims tend to be higher, until age 60). Because women have a longer life-span, on average, than men, the monthly payments they collect after retirement on an annuity may be less than those of a man who paid the same premiums for the same period of time. All of these differentials are based on "actuarial" tables that are continually revised by insurance companies; state regulatory agencies have by and large upheld them in principle, though often insisting on specific modifications.

The Limits of Competence

If the Supreme Court has enunciated no sweeping "one man, one vote" kind of doctrine in the area of gender, it is because the issues involved are so complicated and the principles are rarely clear-cut. "Important state interest" is not an unequivocal standard, for it can mean different things at different times. Some of the laws that the Court has lately struck down might once have satisfied that standard. When fewer women worked outside the home and those who did could barely earn a living, it was hardly bizarre to burden a husband as a matter of course with the obligation to support his wife in the event of divorce. One day's "enlightenment" is the next day's anachronism. Affirmative action, for example, will be defensible only so long as lawyers for women's groups and racial minorities can convincingly invoke the continued "effects of past discrimination."

Society is not static, and no bill of rights for women (or

men) will settle every issue of gender distinctions forever. A gray area will always exist where what is "right" or "wrong" is a matter of judgment. When, in 1976, the Supreme Court overturned Oklahoma's two-tiered drinking age—a higher one for men than for women—it did so largely because the state was unable to show that men were responsible for significantly more alcohol-related traffic accidents than women (the justification for the law). But what if the male accident rate had, in fact, been shown to be 500 or 1,000 times greater than that of women?

Would the Court, for that matter, have acted differently in *Roe* if the theory of fetal "viability" had been radically altered by routine test-tube conception? Would the Justices have decided what they did in *Parham* if a foolproof medical test for paternity had been available? One need not answer such questions to recognize that changing realities set certain limits on judicial capability to make final determinations. The law can be an effective spur to shifts in human behavior, but changing behavior just as often leads to shifts in law. Moreover, not all of the restrictions or protections that assigned 19th-century women a "special place" were codified in statutes, just as not all, or even most, of women's recent gains in the workplace or in access to graduate schools can be laid at the door of Congress or the Supreme Court.

The Court was never meant to act as a social barometer, but it does not exist in a vacuum. Nor does the law. Eleanor Smeal, president of the National Organization for Women, recently predicted that if the Equal Rights Amendment failed of ratification, and women consequently had to fight sex discrimination on a case-by-case basis, "we'll be working on this until the year 3000." In fact, we'll probably be working on such issues until, and beyond, the year 3000 anyway. The courts will repeatedly have to determine, in real-life cases, where circumstances are as complicated as men and women can make them, what constitutes "equal rights" in practice, what constitutes "abridgment" of those rights, and when such rights may have to be qualified in light of other social interests.

We will not, I believe, ever retrace the major legal steps already taken. But, on occasion, as realities dictate, the law will continue to view men and women differently, no matter how "differently" may be defined as time goes on.

BACKGROUND BOOKS

MEN AND WOMEN

As long as there are men and women, there will be an audience for books about men and women. Most of the studies now in print embrace a general principle amiably enunciated by James Thurber and E. B. White in **Is Sex Necessary?** (Harper, 1929; 1975, paper; Queen's House, 1977, cloth): "While the urge to eat is a personal matter which concerns no one but the person hungry ... the sex urge involves, for its true expression, another individual. It is this 'other individual' that causes all the trouble."

The chief focus of historian Carl Degler's **At Odds** (Oxford, 1980) is on the *modus vivendi* that evolved between the sexes during the 19th and early 20th centuries. Citing letters, diaries, medical writings, and other evidence, he disposes of several myths: that the Victorians shrouded sex in a "conspiracy of silence"; that the "cult of domesticity," which kept middle-class women in the home, was a kind of male conspiracy.

Rather, Degler shows, women championed domesticity—and solidified their control over all aspects of family life. They wielded their moral authority to combat prostitution, alcohol abuse, and the exploitation of working-class women.

As for sex, what restraint there was represented a strategy by women to free themselves from unwanted pregnancies. Aided by doctors, 19th-century wives also experimented with birth control and abortion, though without consistent success.

All of this coincided with the first feminist movement in Europe and America. "We have had the morality of submission and the morality of chivalry and generosity," wrote philosopher John Stuart Mill in **The Subjection of Women** (Appleton, 1869; MIT, 1970, paper). "The time is ripe for morality of justice."

Mill's essays on the unhappy status of women went far beyond most feminist rhetoric of the day. Law was not the only villain, he contended; rather, the most basic relationships between men and women—e.g., within marriage and the family—cried out for overhaul. His was a decidedly "modern" view, anticipating such books as Simone de Beauvoir's **The Second Sex** (Knopf, 1953, cloth; Random, 1974, paper), and Kate Millett's **Sexual Politics** (Doubleday, 1970, cloth; 1971, paper).

Millett's book, widely acclaimed at the time, is wide-ranging, even diffuse. Drawing on Henry Miller, Sigmund Freud, and Nazi Germany, as well as on research in biology and psychology, Millett argued that sexual domination (by men of women) was "the most pervasive ideology of our culture."

She predicted, rightly, that issues of gender would have political implications; wrongly, that women would join blacks and students "in a growing radical coalition" to bring forth "a world we can bear out of the desert we inhabit."

Most modern feminist writings rest on the assumption that differences in male and female personality and behavior can be accounted for entirely by "social conditioning." Steven Goldberg disagrees. In **The Inevitability of Patriarchy** (Morrow, 1973, cloth & paper), he notes the "universality of male dominance" and concludes that this is the way Nature intended life to be.

"At the bottom of it all man's job is to protect woman and woman's job is to protect her infant." Feminists who say otherwise, Goldberg says, are "forever condemned to argue against their own juices."

Elizabeth Gould Davis presents a different view of matriarchy in **The First Sex** (Putnam's, 1971, cloth; Penguin, 1972, paper). She argues that, long before recorded history, there existed an advanced civilization populated only by women (who were capable of reproducing themselves). It was, she writes, "a golden age of queendoms, when peace and justice prevailed on earth."

Biologists, primatologists, and other serious scholars have advanced more tentative conclusions about men and women in prehistory. Zoologist Sarah Hrdy wrote **The Woman That Never Evolved** (Harvard, 1981) "to correct a bias within evolutionary biology"—namely, the notion that natural selection operated primarily on males, that it was the men who adapted while women remained passive spectators as the world around them changed. Hrdy makes a compelling case for the importance of female-female competition for men—the same kind of "trial-by-fire" intra-sex conflict that (in the conventional view) was so important to male evolution.

The eight contributors to **Woman the Gatherer** (Yale, 1981), edited by Frances Dahlberg, provide a useful modification of the dominant "man the hunter" view of early hominid society. Museum tableaus depicting hirsute males tracking saber-toothed tigers have elements of high drama, Dahlberg admits. But hunting, by itself, is not the stuff stable societies are made of. While the men were away, women sustained the rest of the community, securing protein from catfish, termites, snails, gerbils. Not very heroic, Dahlberg says, "but what is lost in drama is gained in diversity and complexity."

Two other books provide a more comprehensive view of men and women over time and males and females of various species: David Barash's **The Whisperings Within** (Harper, 1979) and Donald Symons' **The Evolution of Human Sexuality** (Oxford, 1979).

Each of the four scholarly studies just mentioned above is written with *brio*. All of them are easily accessible to the general reader.

The best primer on the subject of sex generally is John Money's **Love and Love-Sickness** (Johns Hopkins, 1980, cloth & paper), which concisely and authoritatively covers everything from hormones to homosexuality to mathematical ability.

Two useful adjuncts are Richard Restak's **The Brain: The Last Frontier** (Doubleday, 1979, cloth; Warner, 1980, paper) and Eleanor E. Maccoby and Carol Nagy Jacklin's **The Psychology of Sex Differences** (Stanford, 1974, cloth & paper). Maccoby and Jacklin reviewed the published research—more than 1,000 articles—and divided scholars' findings on sex differences into those that were undocumented (that girls are more "social"), those that were well-established (that boys are more "aggressive"), and those on which the jury was still out (almost everything else). The book's main flaw: It is nearly a decade out of date.

Where do men and women stand relative to one another in education, politics, the workplace? Ann Oakley's **Subject Women** (Pantheon, 1981, paper only) is a good place to look for answers. The book is balanced and comprehensive. Data come from both Britain and the

United States.

Jessie Bernard provides a more idiosyncratic view in **The Female World** (Macmillan, 1981). Bernard set out to look at women and *only* women: their friendships, the "subworlds of children and girls," literature and art, the "ethos" of the female world. It is a revealing work of "anthro"pology; perhaps the most revealing aspect of it is that Bernard cannot keep men out of the story.

It is a problem, the way men always seem to intrude. In her autobiographical **The Cinderella Complex** (Summit, 1981), Colette Dowling describes how she, a divorced mother of four, proudly and independently making her way in life, suddenly fell in love again and discovered the balm of dependence. Gradually Dowling abandoned her writing career in favor of "home-making—blissful homemaking" in Rhinebeck, N.Y.

Her liberated boyfriend was nonplused—"unhappy with what looked, increasingly, as if it might develop into a permanent inequity." He was, after all, paying the bills and supporting someone else's children.

Men, it seems, are often both surprised and confused. "There are still no clear, consistent cues from women as to what an appropriate, complementary male contribution is in many situations," as Eric Skjei and Richard Rabkin point out in **The Male Ordeal** (Putnam's, 1981).

Perhaps it is because women themselves do not always know. In 1963, Betty Friedan published **The Feminine Mystique** (Norton, 1963; 2nd ed., 1974, cloth; Dell, 1977, paper) —the call to arms of the modern middle-class women's movement. Friedan described "the problem that has no name":

"As she made the beds, shopped for groceries, matched slipcover material, ate peanut butter sandwiches with her children, chauffeured Cub Scouts and Brownies, lay beside her husband at night—[the housewife] was afraid to ask even of herself the silent question—'Is this all?'"

Domesticity, Friedan wrote, had been glorified out of all proportion. Yes, it was often a source of satisfaction; yes, writing "Occupation: Housewife" on the census form was enough for some women. But others felt "incomplete."

Friedan warned that there was no "easy 'how-to' answer." She cautioned that getting "a job, any job" was not necessarily a solution. Husbands would, willy-nilly, have to be "sensitized." Girls would have to be brought up to expect more and strive for more. In ways that were not yet clear, the larger society would have to change.

Nearly two decades have passed. Writing in **The Second Stage** (Summit, 1981, cloth), Friedan looks back on what women have gained. A great deal, she believes. But, Friedan adds, "in our reaction against the feminine mystique . . . we sometimes seemed to fall into a *feminist* mystique which denied that core of woman's personhood that is fulfilled through love, nurture, home."

There is, Friedan contends, a new "problem that has no name": how to combine love, work, marriage, children—and freedom. It is a dilemma that makes "sexual war" self-defeating, Friedan believes, for it is one that can be resolved only if it is confronted by both sexes, together.

History:

THOMAS JEFFERSON AND THE DANGERS OF THE PAST

After completing his six-volume life of Jefferson, biographer Dumas Malone last summer allowed that he "could not hope to have done full justice to a virtually inexhaustible subject." Indeed, the complicated life and the wide-ranging intellect of America's third President have variously awed, dismayed, and exasperated scholars who try to explain them. Jefferson's ambiguous stand on slavery in his native Virginia, for example, did not conform with his own words on liberty or with the spirit of the Declaration of Independence. Yet this contradiction was only part of Jefferson's ambivalent attitude toward history. Here historian Marcus Cunliffe describes Jefferson's effort to reconcile the past with his revolutionary vision of the new American Republic that he helped to create.

by Marcus Cunliffe

One of Jefferson's most famous propositions, written in Paris in September 1789, was introduced in a letter to his fellow Virginian James Madison. The question he raised was "whether one generation of men has a right to bind another." His answer was an emphatic no: *"the earth belongs in usufruct to the living."*

Each generation enjoys the use of its property, while alive. The laws of the society may permit such property to be bequeathed to those still living. But, he believed, the survivors have no natural right of inheritance; nor should the dead be allowed to dictate how the inheritance is to be used.

Jefferson then, characteristically, sought to quantify his as-

sertion. He assumed that those reaching 21, the age of maturity, could expect to live for another 34 years. He first supposed that 34 years was the span of a generation. However, he had to reckon with the fact that birth and death formed a continuous stream, and that life expectancy was merely an average figure. Adjusting his arithmetic accordingly, Jefferson argued that "half of those of 21 years and upwards living at any one instant of time will be dead in 18 years 8 months, or say 19 years as the nearest integral number." The real majority span of a generation was therefore 19 years.

Various consequences followed. National debts should be dischargeable within 19 years. Every constitution and every law "naturally expires at the end of 19 years." Copyrights and patents should be valid for that period, and no longer. Could not Madison, as a member of Congress, influence legislation in obedience to this principle?

On the evidence of his correspondence, Jefferson continued to believe that he had hit upon a fundamental truth, highly pertinent to the evolution of the new American republic. In 1816, he restated his theory in a discussion of the need for revision of the Virginia Constitution at regular intervals:

> Each generation is as independent of the one preceding, as that was of all which had gone before. It has then, like them, a right to choose for itself the form of government it believes most promotive of its own happiness; . . . and it is for the peace and good of mankind, that a solemn opportunity of doing this every nineteen or twenty years, should be provided by the Constitution.

Jefferson expressed similar views to Thomas Earle (September 24, 1823) and yet again in a long reply to the English radical John Cartwright (June 5, 1824), composed at the age of 81 when he had only two more years to live: "Can one generation bind another, and all others in succession forever? I think not. The Creator has made the earth for the living, not the dead." Though these later letters no longer appeal to precise arithmetic, the essential idea remains—seemingly as a fixed Jeffersonian principle.

Are we entitled to assume that this principle indicates Jefferson's indifference to or even his detestation of past history? Such sentiments have been fostered, at least implicitly, by many an American progressive since Jefferson's day.

Some scholars contend that his doctrine flowed naturally, indeed inevitably, from beliefs Jefferson had cherished ever since he was a young man. Thus, in *A Summary View of the*

Rights of British America (1774), he had insisted that the settlement of the colonies was a labor undertaken by the colonists themselves, without significant aid from or obligation to the mother country; and that the Crown had no genuine title to lands in America, since feudal dues did not obtain there. In his draft Constitution for Virginia (1776), he had sought to abolish primogeniture and entail—old English legal impediments that limited inheritance to the eldest male heir and prevented the dispersal of estates. Laws to this effect were soon passed; Virginia's lead was followed by other states. As Jefferson later informed John Adams, he felt he had "laid the axe to the foot of pseudo-aristocracy," by preventing the dead from impairing the liberties of the living.

Heady Days in Paris

The same concerns seem evident in several comments by Jefferson, especially in 1787, on the healthiness of "a little rebellion, now and then." Societies must continually revivify themselves, by breaking with the status quo. Or, as he told another correspondent, "The tree of liberty must be refreshed from time to time with the blood of patriots and tyrants. It is its natural manure."

Some historians—for example, Staughton Lynd in *Intellectual Origins of American Radicalism* (1968)—stress the socialist tendencies of "the earth belongs to the living," though they concede that Jefferson, like Thomas Paine, did not push leveling theories to the extreme. Nevertheless, Lynd and like-minded historians perceive an alignment, actual or potential, between past-veneration and conservatism on the one hand, and past-repudiation and radicalism on the other hand.

In this context, it is sometimes asserted that "the pursuit of happiness"—the phrase Jefferson chose for his draft of the Declaration of Independence—appealed to him for more than merely stylistic reasons. "Life, liberty, and property" was the common-

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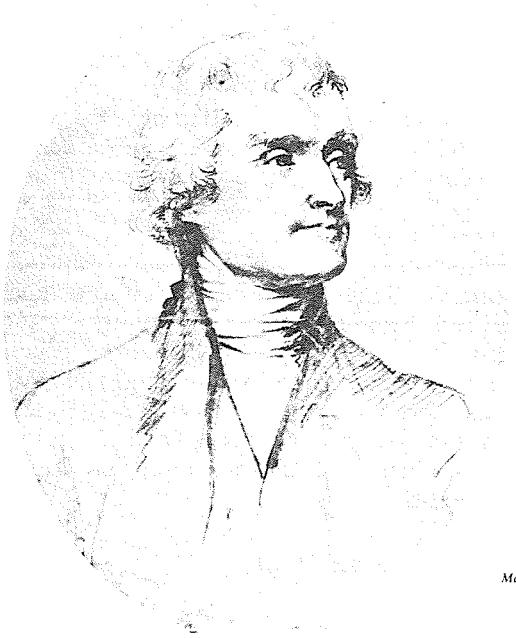
est enumeration of natural rights, made familiar to Americans by the writings of John Locke and others. Subsequent statements by Jefferson show, however, that he usually preferred to regard "property" as a civil or legal rather than a natural right. In *Inventing America: Jefferson's Declaration of Independence* (1978), Garry Wills contends that Jefferson disliked the "possessive individualism" of Locke's 17th-century *Second Treatise of Government*. Jefferson, he thinks, opted instead for the communal values recommended by David Hume and the other Scottish moral rights philosophers of his own century.

Others note the circumstances in which Jefferson composed his 1789 letter to Madison. As a scholar-intellectual, and American minister to France (1784–89), he was intimately associated with reform circles during the heady days of the opening stages of the French Revolution; with Paine, who was also in Paris; and with an English republican, Dr. Richard Gem, who had already formulated the view "that one generation of men in civil society have no right to make acts to bind one another," and had found a receptive listener in Jefferson.

Madison's Tactful Reply

Still others have treated Jefferson as a person of "visionary" opinions, a radical ideologue all too susceptible to the naive hypotheses of Parisian intellectuals. In the aftermath of the French Revolution, John Adams, an American statesman-diplomat who had also served in Europe, listed the *philosophes* Condorcet, Turgot, and Rochefoucauld as characteristic examples of "the profoundest science, most extensive literature, united with total ignorance and palpable darkness in the science of government" —in other words, as learned idiots. Though Adams stopped short of including his friend-adversary in such an indictment, others were less charitable. Jefferson's contemporary opponents portrayed him as a "Galloman" with a reckless trust in the efficacy of revolutions, and with religious ideas verging, like those of the *philosophes*, on atheism. The charge was to be repeated in later decades. President Theodore Roosevelt, for instance, dismissed Jefferson as a sentimentalist with no real understanding of human behavior or strong government.

To such critics, Jefferson's "earth belongs to the living" letter furnishes useful ammunition, especially when set beside Madison's tactful yet firm rejoinder. "Further light," Madison replied to Jefferson, possibly with some irony, "must be added to the Councils of our Country before many truths which are seen through the medium of Philosophy become visible to the



Pencil sketch of Jefferson by Benjamin Latrobe (ca. 1799). The portrait was drawn from life approximately two years before the "Sage of Monticello" became the third President.

Maryland Historical Society, Baltimore.

naked eye of the ordinary politician."

Madison divided the problem of continuity into three aspects: the fundamental constitution, laws not normally subject to repeal, and laws that could be repealed. Under the first heading, he asked whether governments limited in duration would not be dangerously unstable and unpopular. Under the second heading, he pointed out that "*improvements* made by the dead form a debt against the living, who take the benefit of them." The inheritance was not static:

> Debts may be incurred with a direct view to the interests of the unborn, as well as of the living. Such are debts for repelling a Conquest, the evils of which descend through many generations. Debts may even be incurred principally for the benefit of posterity. Such, perhaps, is the debt incurred by the United States. In these instances the debts might not be dischargeable within the term of 19 years.

Madison went on to remark that the "*descent* of obligations" is a complex affair: "And all that seems indispensable in stating the

account between the dead and the living, is to see that the debts against the latter do not exceed the advances made by the former."

Under the third heading, Madison invoked the rule of practicality. There would be chaos, he maintained, if the rights of property were to vanish after a period of years. It was necessary to assume that the members of a society gave tacit assent to its government and laws, on the ground that these had been approved by a majority.

Recommending the Ancients

There can be no doubt that Madison had the better of the debate. Jefferson had exposed himself to the charge, frequently leveled by his critics, that he was inconsistent as well as illogical. For instance, two years before his letter to Madison, he claimed that "by the law of nature" Congress was empowered to compel money contributions from the states of the Union, although the Articles of Confederation, the existing instrument of government, did not vest Congress with that authority.

Jefferson was a complicated man. His early education grounded him in the classics. In 1771, he supplied his fellow Virginian Robert Skipwith with a list of books suitable for a private library. His catalogue made generous provision for drama, poetry, and fiction; among novelists, he included Henry Fielding and Laurence Sterne. Nevertheless, he found room among the ancients for Xenophon, Cicero, Livy, Tacitus, Plutarch, and others, together with historical dictionaries and surveys. Half a century later, he was still keenly interested in classical antiquity. In a letter of October 25, 1825, discussing the history curriculum at the new University of Virginia, he recommended the ancient historians "in their originals if understood."

He was more deeply versed in, and engaged by, the presumed lessons of the past than were the majority of his contemporaries. A case in point is his passion for classical architecture, which he was able to indulge during his years in Europe. He fell in love with the old Maison Carrée in Nîmes, a Roman structure that had been restored by Louis XIV, and drew up plans to reproduce its main features for the new Virginia state capitol in Richmond. He described the Maison Carrée as "the most perfect model of ancient architecture remaining on earth," a building that has "obtained the approbation of fifteen or sixteen centuries, and is therefore preferable to any design which might be newly contrived."

Nearer home, Jefferson was fascinated by the prehistory of

the American continent, speculating in his *Notes on the State of Virginia* (1785) on the significance of fossil remains. In the same book and in other writings, he theorized as to the origins and evolution of the American Indians. His aim in the *Notes* was partly to refute those European savants, above all Buffon, who proved to their own satisfaction the inferiority (in size, beauty, energy, etc.) of American flora and fauna, and of the aborigines. As an American patriot, Jefferson insisted upon the antiquity of his hemisphere. The bones of extinct mammoths *proved* that huge animals had formerly inhabited North America. He tentatively suggested that Asia may have been peopled from America, rather than the other way round.

1066 and All That

A comparable blend of antiquarian curiosity and patriotic pride stimulated his interest in the history and language of the Anglo-Saxons. In 1774, Jefferson's *Summary View* had introduced the argument that Anglo-Saxon England was a kind of paradise of democratic freeholders, ruined by the arrival of William of Normandy in 1066, when the "Norman yoke" of aristocratic feudalism was fastened upon the country.

He claimed to have become absorbed in the Anglo-Saxon language as a young student of law in Williamsburg. His enthusiasm survived. He wrote an essay on Anglo-Saxon in 1798, revised it in 1818 as an outline for the study of the language at the University of Virginia, and added a postscript in 1825. His argument was that Anglo-Saxon was a beautiful and flexible tongue, and a truer ancestor than Greek or Latin (or Norman French) of modern English.

Clearly, it is too crude to maintain either that Jefferson sought to obliterate the past or conversely that he was, in his heart, an indiscriminate respecter of tradition. We must seek some sensible middle ground.

One way is to define Jefferson as a figure of the Enlightenment (that larger philosophical movement criticizing the doctrines and institutions of the "Old Regime"), though with certain peculiarly American features.

Not all men of the Enlightenment viewed human history in exactly the same way. They tended, however, to agree on some broad conceptions. For most, human nature remained a constant, though subject to the pressure of environmental factors such as social organization and climate. Despite setbacks, the movement of history was progressive, so that the scholar could trace a gradual improvement in moral and material well-being.

Most believed, too, that admirable eras had alternated with deplorable ones. The civilization of Greece and Rome had as a whole been a great and good age. Subsequently, Europe had retrogressed into a prolonged Dark Age. Secular and sometimes fiercely anticlerical in outlook, the French *philosophes* denounced the obscurantism of the medieval church. Light had begun to return with the Renaissance. Its bright glow bathed the 18th century, *"le siècle des lumières."*

Like his American contemporaries James Madison and Alexander Hamilton, Jefferson shared a number of the enthusiasms and aversions of the European Enlightenment. While he was in France, and for some years in the 1790s, he was in fact, as his political opponents alleged, prejudiced in favor of French notions of reform. Yet, though he had long castigated the British monarchy, he did not urge the overthrow of Louis XVI in the early stages of the French Revolution. To judge from his correspondence, he was in sympathy with those *philosophes* such as Voltaire who upheld the *thèse royale,* according to which the monarchy was the agent of modernization, embodying the hopes and needs of the entire population.

What was "British" rather than "European" in Jefferson's attitude toward the past was his attachment to the Commonwealth or Real Whig doctrines of constitutional liberty. Here lies the significance of his interest in Anglo-Saxondom. Whig reformers in Britain firmly believed that the nation had been democratic before the Norman conquest.

Retaining the Beautiful

So, as we have seen, did Jefferson. In one letter in 1824, though, Jefferson goes on to claim: "Our Revolution commenced on more favorable ground. It presented us an album in which we were free to write what we pleased."

The inconsistencies are understandable, and not serious deficiencies in logic or integrity. We discover from other revolutions that, in the act of repudiating the past, those who proclaim a new order also make certain demands on history. They need to establish a justification for extreme measures, which entails presenting a persuasive analysis of past events. Karl Marx felt impelled in effect to compile a history of the world in order to explain why the future must lead to better things. Revolutionaries try to legitimize the new order by providing a sort of pedigree, complete with a pantheon of heroes and martyrs, a contrasting set of villains, and if possible a historical folklore of bygone golden ages and prophetic achievements. Revolutionar-

ies sense a need too for appropriate new literary and artistic modes. Commonly, however, these turn out to be a compromise with venerable traditions—classical with *neo* as a prefix. Nor of course do political revolutionaries tend to approve of radical aesthetic innovation. Marx and Lenin distrusted *avant-garde* tastes. Confessing his lack of appreciation of "expressionism, futurism, cubism, and other isms," Lenin urged, "We must retain the beautiful . . . even though it is 'old'. . . . Why worship the new as the god to be obeyed, just because it is 'the new'?"

The Unwisdom of the Past

Jefferson, then, did love some aspects of the past. But, like others of his era, he drew upon it selectively. The test was whether its materials were relevant for current purposes. He had little use for Aristotle and even less for Plato, because he believed that they had failed to think deeply enough about first principles. The ancient Greeks "had just ideas of the value of personal liberty, but none at all of the structure . . . best calculated to preserve it," since they had not (he rather inaccurately held) recognized the possibilities of *representative* democracy. "The introduction of this new principle . . . has rendered useless almost everything written before on the structure of government."

Jefferson had some of the instincts of an antiquary for whom the past was a rich miscellany of marvels and mysteries. If the American Revolution had never occurred, perhaps he would have been content to exist as a speculative Virginia squire, exchanging information on mammoth bones, Epicureanism, Indian customs and dialects, agriculture, science, the history of English constitutionalism, and so on with congenial savants in America and across the Atlantic. The coming of the Revolution, and his subsequent involvement in the establishment of the American republic, made his speculations more focused and polemic.

The rift with the mother country obliged him to define Americanness. His ideological inheritance was, as we have seen, in the main that of a fairly cosmopolitan British Whig, indoctrinated in some of the standard notions of the Enlightenment. Among these was the view that, under their mixed constitution (king, lords, and commons), the English had achieved a stability and liberty that were the envy of other lands. But Britain had become corrupt beyond redemption and had tyrannical designs upon the American colonies. At first, like other colonists, Jefferson blamed Parliament. His draft of the Declaration of Indepen-

Courtesy of The New-York Historical Society, New York City.

Two portraits of Osage warriors by Fevret de Saint-Mémin (ca. 1807), commissioned by Meriweather Lewis. Fearing the extinction of native culture, Jefferson had asked the explorer to collect information on Indian life.

dence shows that by 1776 he had shifted the onus to the crown, in the person of George III, coupled with an indictment of the British people for their acquiescence in the oppression and dishonesty of the royal administration.

In this evolution, we may discern a dual reaction, which to some extent persisted in Jefferson's mind for the rest of his life. On the one hand, he viewed the American Revolution as conservative. His countrymen were restoring constitutionalism to its proper form; they were abiding by principles that the British had neglected and distorted. Hence, his devotion to Anglo-Saxondom. Hence too, his almost bizarre readiness to argue that the English common law, while no longer suitable for America, had been an excellent system until deterioration set in—in the 13th century! His post-1776 commitment to republicanism, and detestation of monarchy, perhaps also was in a way conservative. At the zenith, the classical civilization of the Greeks had been republican; the Americans would recover that glory by removing the latter-day excrescences of monarchy and aristocracy. The American farmer would read Homer. The local

American community would re-enact the democracy of the Anglo-Saxon folk assemblies.

On the other hand, if the Americans stood upon the shoulders of the past, they did so to see further than their ancestors. Indeed, Jefferson thought that—with certain exceptions—during most of human history people had been blindfolded. The wisdom of the past was limited; worse, much of it was fallacious and therefore actively harmful for the new nation. Writing to the English radical, Dr. Joseph Priestley, Jefferson derided the idea that "we are to look backwards instead of forwards for the improvement of the human mind." In another letter to Priestley, on the day of his inauguration as President of the United States (March 21, 1801), Jefferson exulted: "The great extent of our Republic is new. Its sparse habitation is new. The mighty wave of public opinion which has rolled over it is new."

Keeping Slaves, Teaching Liberty

Believing this, Jefferson was perturbed to think that most of the theories of the past ran counter to the tenets of American republicanism. He wanted Americans to be educated—a *sine qua non* of representative democracy. But which voices from the past were trustworthy? In 1771, writing to Skipwith, Jefferson could without hesitation recommend the standard works of English literature, including Shakespeare's *King Lear.* After the Revolution, it is hard to find any appreciative references in Jefferson's letters to the acknowledged masters of English fiction and drama. Almost all assumed the rightness and permanence of hereditary social divisions, and the vulgarity of the lower orders. Walt Whitman was to object to Shakespeare's plays on these grounds. Possibly Jefferson also feared the effect of such subtle poisons upon the new America.

In sum, Thomas Jefferson could not altogether shake off the past. Indeed, some portions intrigued and pleased him. Others provided cautionary tales, and so at least negatively were instructive. His "canine appetite" for reading embraced them all. Yet he went further than most of his American contemporaries in his insistence on looking forward instead of backward. The lexicographer Noah Webster, a robust reformer-patriot in the 1780s, later became convinced that Jefferson's future-mindedness, so evident in his letter to Madison, was disastrous: It encouraged irreligion, disobedience among the young, demagoguery, and bad faith in commerce.

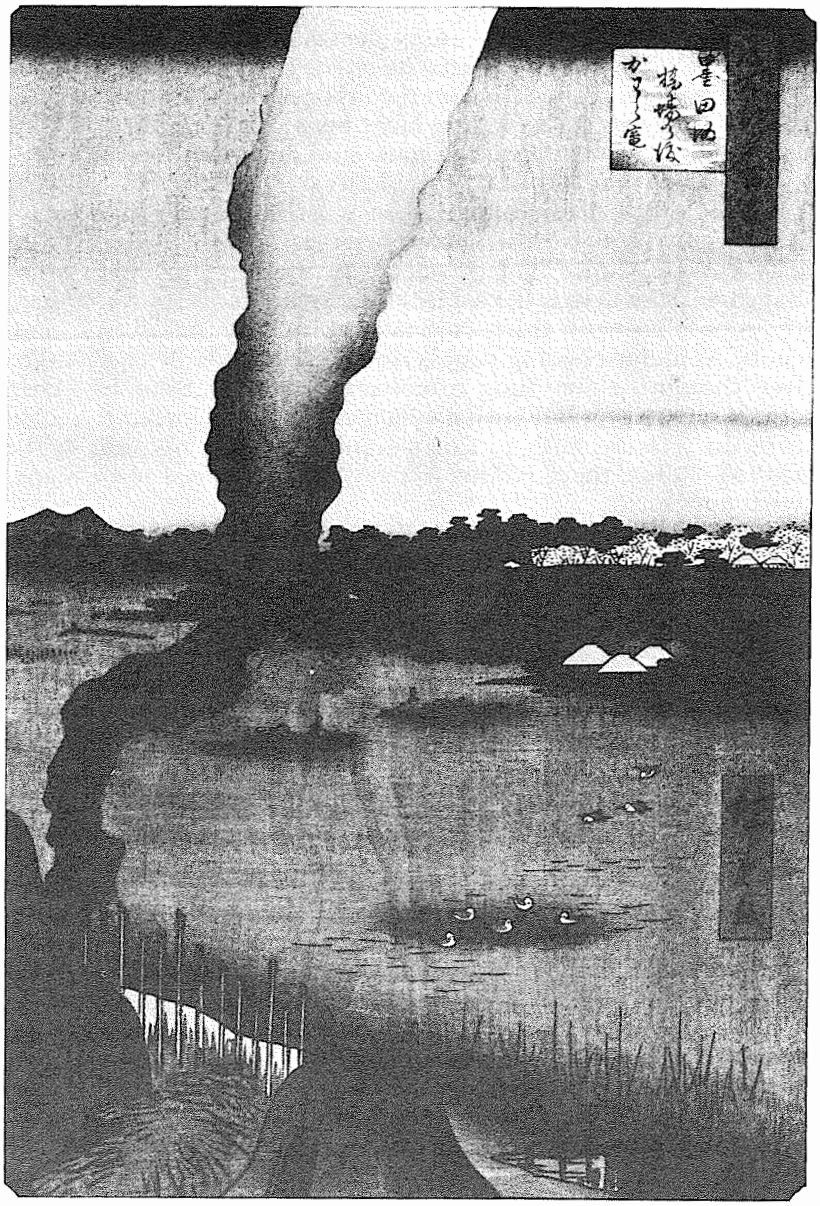
We may agree that Jefferson was sometimes injudicious, sometimes too sanguine, and possibly sometimes a little dis-

ingenuous. Attacking inheritance, he was, after all, the inheritor of a sizable landed estate, thanks to the efforts of his forebears. Preaching liberty, he relied on the labor of Negro slaves. His detractors may in some degree have been correct when they alleged that he was at once dogmatic and devious.

America was not in truth able to start afresh on a pristine continent. The American heritage was British and European: Americans were colonists, not aborigines, and their ideas of liberty and resistance had traveled with them, along with other baggage, from across the Atlantic. As invaders and slaveholders, they could not with entire conviction proclaim themselves innocents. As a churchgoing people, increasingly hostile to deism or free thought, they clung to convention more than Jefferson would have liked, but with a vehemence he was forced to recognize. In relation both to Europe and to public opinion in the United States, then, Jefferson inevitably appeared to be somewhat equivocal.

Nevertheless, he remained generally faithful to the principles of his youth. Unlike Webster, he retained his belief in popular democracy. Having once repudiated the creeds of aristocratic Europe, he did not repudiate his repudiation. He surrendered gladly to an ideological imperative. His emphasis on the view that the earth belongs to the living expressed not only a hope that this should be so but a conviction that it *must* be so.

To admit the dominance of the past was to admit the possibility, even the probability, that the American experiment was unsound. Jefferson has been criticized for claiming that Hamilton and his allies in the 1790s wanted to resurrect monarchy in the United States. It is true that they did not. It is also true that they lacked his sure confidence in the viability of representative republicanism. If he had too much confidence in human nature, when liberated from the physical and psychological trammels of the Old World, Jefferson's critics were too grudging, and at least as guilty as he, in the opposite direction, of having patched together a perverse assembly of opinions as to the proper relation between past and present. He did not pretend the past had never existed or was beneath contempt. He did continually insist, with good reason in the American context, that history in America was an open book whose later chapters were still unwritten.



By permission of Sotheby Parke Bernet, New York City.

In this 1857 painting, a column of smoke rises from an earthenware kiln by the Sumida River near present-day Tokyo. Japanese pottery, highly prized abroad, was one of the country's first export products.

Japan

Since 1973, when most Western economies were first becalmed by rising oil prices, Japan's star has seemed to shine brighter than ever before. But many Americans forget that Japan's economy has outperformed most others during much of this century. If there is a secret to this success, it is the Japanese ability to adapt quickly to new conditions and the Tokyo government's encouragement of change. Here, historian Peter Duus tells how the Japanese pragmatically modernized their "underdeveloped" country after 1868; historian James B. Crowley describes Japan's growing prosperity, in war and in peace, after 1890; and economist Patricia Hagan Kuwayama explains why the postwar economic "miracle" is no miracle at all.

TAKING OFF

by Peter Duus

In 1857, Townsend Harris, the first American minister to Japan, had a hard time convincing the country's feudal leaders that doing business with the United States might be a good thing. He preached the mid-Victorian gospel that foreign trade would make their nation wealthier and stronger, but his ideas were not well received in Edo (now Tokyo), Japan's capital.

For more than 200 years, the Japanese had been strict mercantilists, hoarding gold and silver instead of using them for trade. Under the *shōguns* of the Tokugawa family (who, with some 250 *daimyo*, or regional feudal lords, effectively ruled Japan in the name of a powerless emperor), the country had been "closed." The shōguns restricted the right of people to enter or leave the country. They limited foreign trade to a small trickle of goods—scientific instruments and medicines coming in, silk and tea going out—carried by Dutch and Chinese ships putting in at the port city of Nagasaki. Shortly after the arrival of Commodore Matthew Perry's four "black ships" in 1853, one daimyo warned: "To exchange valuable articles like gold, silver, copper, and iron for useless foreign goods like woolens and satin is to in-

cur great loss while acquiring not the smallest benefit. [It] would inflict the greatest possible harm on our country."

Yet, four decades later, after its victory in the 1894–95 Sino-Japanese war, Tokyo was preparing for what the Japanese business journal *Jitsugyo no Nihon* called a "great economic war" in East Asia. Government officials and private entrepreneurs were debating how best to promote Japanese exports in Korea and China. Robert A. Porter, a U.S. Congressman with an exceptionally clear crystal ball, predicted that "when Japan is fully equipped with the latest machinery, it will . . . be the most potent industrial force in the markets of the world."

The past century has been full of remarkable changes, but few are more astonishing than the early transformation of Japan. While most of Africa, South Asia, and Southeast Asia was succumbing to Western colonialism, and while China, the proud Middle Kingdom, was being threatened with partition, Japan experienced its first "economic miracle" and within a generation emerged as the overwhelmingly dominant military and economic power in East Asia.

How, and why, did this come about? The key to understanding Japan's initial success lies in the triumph of a peculiar brand of anti-imperialism.

The Opening of Japan

Most Japanese in the 1850s saw Commodore Perry as the herald of a "barbaric" and predatory West, not the fraternal envoy of a higher and more prosperous civilization. But some took a realistic view of the situation. As the scholar Sakuma Shōzan wrote after the Opium War of 1839–42, "Why did an upright and righteous great country like China lose to an insolent, unjust, and contemptible country like England? It is because the rulers of China prided themselves on their superiority, regarded the outside world with contempt, and paid no heed to the progress of machinery in foreign countries."

As most Japanese leaders saw it, outright resistance to the foreigners was dangerous. Instead, the shōgun gave way to Perry in 1854, signing a limited treaty (later expanded) granting

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Americans access to two ports. Treaties with the British, French, Russians, and Dutch soon followed.*

The "opening" of Japan, though it kept the Westerners at bay, called attention to the feudal government's weakness. Under the "unequal treaties" of the 1850s and '60s, the country's growing overseas trade soon came to be dominated by the privileged Westerners, and it disrupted the domestic economy. Some commodities, such as tea, were rushed to the treaty ports where they could be sold at great profit, leading to local shortages and high prices. Foreign goods, especially cheap manufactured textiles, began to compete with domestic cotton homespuns. By the mid-1860s, the Japanese were suffering from steep inflation and an adverse balance of trade.

No Utopian Visions

The presence of growing numbers of Western traders, merchants, and sailors in the treaty ports fueled a xenophobic movement to "expel the barbarians" from the country. In January 1861, a group of extremist *samurai* assassinated U.S. minister Harris's interpreter, Henry Huskens.† But more astute leaders, echoing Sakuma Shōzan, knew that it would be futile simply to try to get rid of the foreigners. They realized that Japan's weakness lay in its backward technology and its lack of a strong central government. As one noble in the emperor's court wrote, reasserting Japan's national prestige and overcoming the foreigners "requires that the country be united. For the country to be united, policy and administration must have a single source. . . . The Court must be made the center of the national government."

Samurai from the large Chōshū, Satsuma, and Tosa domains in western Japan were determined to bring this about. In 1868, they engineered a nearly bloodless coup d'état, followed by a brief civil war that ended with the surrender of the shōgun. The coup brought to power a new government under the Meiji ("era of enlightenment") Emperor Mutshuhito, three years before Bismarck completed the unification of Germany.

The "quiet" revolution of 1868 is known as the Meiji Resto-

* By 1866, the Japanese had agreed to open the ports of Shimoda, Hakodate, Nagasaki, Yokohama, Niigata, and Hyōgo (present day Kōbe) to trade; to grant the foreigners "extraterritoriality" (exempting them from Japanese law); to establish diplomatic relations; and to limit tariffs on imported Western goods to a mere five percent.

† The samurai, accounting for some two million (with their families) of Japan's 30 million people, were an aristocratic warrior class in the service of the daimyo or shōgun. Because Japan had been at peace since the civil wars of the 16th century, most earned their stipends as officials, clerks, or even messengers in the daimyo domains.

ration. The real leaders of the Meiji government—Mutshuhito was a figurehead—were primarily the western samurai.* They were outspokenly anti-imperialist—like many Third World rulers of the 20th century. But their minds were not cluttered with utopian ideologies, nor with intransigent anti-Westernism. They were committed to no economic doctrines, save a belief in what worked. The Emperor himself pledged that "intellect and learning would be sought from throughout the world, in order to establish the foundations of Empire."

A Bureaucrat's Paradise

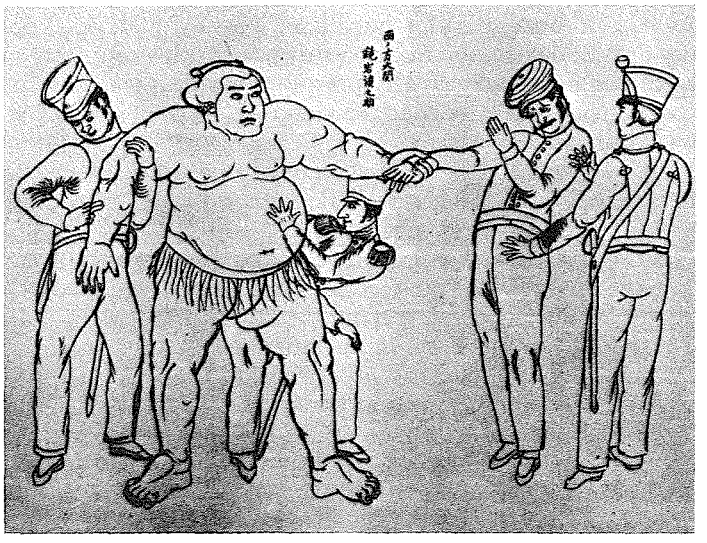
The new leaders' pragmatism, and their practice of acting only after reaching a consensus, did not make for charismatic leadership on the model of Mao or Nasser or Sukarno, but it did protect the ruling oligarchs from making terrible blunders, and it allowed them to incorporate useful Western ways into their government and economy.

The Meiji rulers also had a solid economic foundation to build on, despite the near-chaos of the previous decade. Ōsaka and Tokyo were thriving cities with populations close to a million each. They were linked to the provinces by a complex national marketing network. Large, city-based merchant houses —such as the Mitsui, Sumitomo, and Konoike family ventures—manufactured and traded in clothing, medicines, *sake*, foods, and many other goods. Money changing, deposit banking, bills of credit, commodity trading, and other commercial practices essential to a capitalist economy were well developed by 1868, and cottage industries in the countryside produced goods to supply the great cities.

But agriculture was the real launching pad for the Japanese economic "take off." The late Tokugawa agrarian economy was probably more prosperous than any other outside the West. Enterprising farmers had brought new land into cultivation and had learned how to reap two or three harvests each year instead of one. By 1868, crop yields had been on the rise for a century. And, because the nation's population remained relatively stable during the Tokugawa years, the increased output could be sold in the cities, boosting income per capita in the countryside, where about 80 percent of all Japanese lived.

Rutherford Alcock, a widely traveled British diplomat who became minister to Japan in 1860, was impressed: "The evi-

* The Meiji government, with the Emperor as titular head, consisted of a Chief Executive, 10 Senior Councilors (five court nobles and five daimyo or samurai), and 20 Junior Councilors (five nobles and 15 samurai).



By permission of the Historiographical Institute of the University of Tokyo, and Captain R. Pineau, U.S.N.R.

Commodore Perry called Sumo wrestling a "farce," but he and his men were amazed at the bulk of the wrestlers.

dence of plenty, or a sufficiency at least, everywhere meets the eye; cottages and farmhouses are rarely seen out of repair—in pleasant contrast to China where everything is going to decay."

Landlords and landlord-farmers reaped the greatest rewards. Often, they put their profits into money lending or rural industries such as oil pressing, sake brewing, or spinning and weaving. They also moved from subsistence crops such as rice to cash crops—tea, cotton, and silk. Their petty capitalist mentality prepared them to assume later roles as buyers of stock, promoters of local business, and depositors in modern banks.

To understand the comparative ease with which the Meiji leaders pursued their goal of national wealth and strength, however, one must look beyond basic economic factors. In the post-Restoration period, Tokyo's ability to chart a course for the economy and muster the resources to follow it was a crucial element in the country's success.

Political authority had been highly fragmented in Tokugawa Japan. The shōgun was the country's formal military and political leader, but he shared the power to tax, pass laws, and raise armies with the daimyo in their 250 separate domains. Such diffusion of power proved unwieldy at the national level; but *local* government was extremely efficient by pre-modern

standards, a bureaucrat's paradise. Samurai clerks kept minutely detailed records on everything from the religious preferences of the peasantry to the pregnancy of horses. The mass of the population had learned to defer to "honorable officials." When Commodore Perry arrived, Japanese society had the brain of a dinosaur but the nervous system of a primate. Once the Restoration lopped off the head of the *ancien régime*, rapid bureaucratic mobilization was possible.

The samurai class itself also proved remarkably adaptable to change. As the Meiji government gradually destroyed the old system of feudal privilege during the early 1870s, many samurai easily shifted to new roles in business, education, science, and particularly the central government. These one-time aristocrats, unlike their counterparts in the West, were well accustomed to part-time employment by 1868, having turned to occupations such as farming, teaching, or trading to supplement their often meager fixed stipends.*

Fear and Fascination

The population as a whole, including commoners, was highly educated. In 1868, according to one estimate, more than one million people were attending some sort of school. At the outset of economic modernization, the basic literacy rate was probably about 50 percent among adult males and 12 percent among females. This placed Japan at roughly the level of Disraeli's England.

Tokyo made elementary school education compulsory in 1872, a decade before Britain did so, declaring that "henceforth, universally, without any distinction of class or sex, in no village shall there be a house without learning, and in no house an individual without learning." In 1877, Tokyo University opened its doors, the first of many public and private universities to be established in the Meiji period.

Despite their fear of foreign domination, the Japanese were fascinated by things Western. Fukuzawa Yukichi's *Conditions in the West*, describing everything from lunatic asylums to table manners, sold 150,000 copies in Japan in 1866. Fukuzawa, a leading pro-Western intellectual, later established his own university and newspaper. Like many Japanese educators of the

*Tokyo effectively eliminated the last vestiges of feudal privilege by 1876. In 1869, it had abolished the feudal domains and deposed the daimyo, offering them generous lump-sum payments; samurai stipends were halved. In 1871, the government declared all classes equal before the law. A universal draft (1873) ended the samurai monopoly on military service. Finally, in 1876, the samurai were deprived of their stipends (but paid off) and stripped of the right to wear swords, the traditional badge of their high social status.

day, he believed that absorbing *some* Western values was the key to modernization. "To defend our country against the foreigners," he wrote, "we must fill the whole country with the spirit of independence, so that noble and humble, high and low, clever and stupid alike will make the fate of their country their own responsibility." During the 1870s, Japanese schools played down such traditional Buddhist and Confucian virtues as docility, modesty, and deference. Using Victorian primers (British writer Samuel Smiles's *Self-Help*, for instance, another best seller in Japan), educators tried instead to encourage independence and enterprise.

"Walking on Two Legs"

Japanese traditions survived, too, and proved to be a far greater asset than many had predicted. The samurai ethos of public spirit and complete loyalty, for instance, was easily adapted to fit the realities of post-Restoration Japan. Though stripped of their former status, the samurai took their *esprit* with them into business and government. The communal spirit suffused every level of society. Morimura Ichizaemon, an overseas entrepreneur with a peasant background, declared that "the secret to success in business is the determination to work for the sake of society and mankind as well as the future of the nation, even if it means sacrificing oneself."

Even the islanders' most "backward" values meshed well with the modernization effort. A group of peasant farmers who joined a new mutual savings society swore to "preserve our station in life, show humility and proper respect for others, be industrious and frugal, and so live up to the deeds of our ancestors and bring their work to fruition." For centuries, wresting more food from Japan's limited crop lands had demanded foresight, discipline, and local cooperation.

At first, few of the Meiji oligarchs had a very clear or sophisticated appreciation of what was required to make Japan strong economically. Countering the West's overwhelming military power was their chief concern. This meant buying gunboats, training a Western-style army, and building munitions factories and shipyards.

In 1871, a government delegation led by the elder statesman Iwakura Tomomi visited the United States and Europe to try to renegotiate the "unequal treaties" of the 1850s and '60s. Iwakura was unsuccessful, but he and his fellow diplomats (including a former Finance Minister, Okubo Toshimichi, and two imperial councilors) saw firsthand the vast technological supe-

This 1625 painting shows a woman weaving silk fabric. Cottage industries played an important part in the development of the Japanese economy up to World War II.

Courtesy M.O.A. Art Museum, Tokyo.

riority and wealth of the West. They realized that their own economy need not be fixed in size (as their Confucian training had led them to believe) and came to see that modern commerce and manufacturing were as much the source of Western power as modern cannons. In England, Okubo wrote, "Everywhere we go, there is nothing growing in the ground, just coal and iron. . . . Factories have increased to an unheard-of extent, so that black smoke rises from every possible kind. . . . This is sufficient explanation of England's wealth and strength."

Partly as a result of this visit, the Meiji government decided to concentrate on building up a modern manufacturing sector in Japan. It began to shift capital from agriculture to light industry, import foreign technology, and introduce the management methods of the advanced capitalist countries.

During the 1950s, Mao Zedong stressed the need for China to "walk on two legs," instead of relying on just one sector of the economy for growth. The Meiji leaders had no slogan for what they were doing, but that was the kind of policy they pursued.

They were desperately anxious to limit their dependence on foreign capital. (The Japanese avoided borrowing money from the West until the turn of the century, when they were confident

that they could limit foreign penetration of the economy.) To finance the country's development, Tokyo relied instead on the flourishing agricultural sector. During its first two decades, about 80 percent of the government's revenues came from a land tax instituted in 1873. Agricultural production during those years increased between one and three percent annually, far outpacing population growth. Part of the surplus was sold in the cities; the rest was sold overseas, mostly to Europe. Indeed, the agricultural sector was so prosperous that it continued to absorb most of the country's population increase right up until the 1900s. Japan never had to struggle to feed a growing number of hungry mouths, unlike many developing nations today.

Helping the Farmers

The growth of the rural economy rested neither on a major revolution in agricultural techniques nor on a massive redistribution of the land. Improvement came through the wider diffusion of the best traditional technology—better seed varieties, more effective fertilizers, new techniques for dealing with pests, and the reclamation of marginal land. The government helped to promote these changes by disseminating information and establishing agricultural schools, but the main initiative came from the farmers themselves.

The tax structure gave farmers an incentive to improve their land. In feudal Japan, landholders had had to give a certain proportion of their harvests to the authorities, but under the system set up in 1873, fixed-sum taxes were levied. If the yield of the land went up, the tax burden did not increase. Landlords had a direct incentive to produce more.* Their profits played an important part in the build-up of the private sector. In the Soviet Union, the government slaughtered the Kulaks after the 1917 revolution; Tokyo encouraged its well-to-do farmers.

The government in Tokyo invested in handsome, Western-style office buildings, outfitted an impressive new army and navy, and paid generous salaries to its bureaucrats. But it also did much to aid Japan's farmers and entrepreneurs. It improved roads, built harbors and irrigation systems, reclaimed land, and built new bridges—all of which helped producers increase output or get their goods to market. By 1893, Tokyo had laid 2,000 miles of railroad track, strung 4,000 miles of telegraph lines, established a postal system, and purchased several steamships to

* Taxing farmers to build up industry and military strength nevertheless produced some resentment in the provinces during the 1870s. There were at least 200 political disturbances between 1868 and 1878.

provide ferry service between major cities.

The Meiji leaders energetically set about importing foreign technology. During the 1870s and '80s, hundreds of foreign experts—dubbed "live machines" by one Meiji official—were brought to Japan, often at exorbitant salaries, to advise on everything from raising sheep to constructing railroads. Most came from Great Britain, then the premier world power, with lesser numbers from France, Germany, and the United States.

Boosting Spirits

The Japanese were careful to select experts from the countries most proficient at the technical skills they were trying to learn. (After the 1870–71 Franco-Prussian War, for example, the Japanese sent their French military advisers home and called in the victorious Prussians.) They hired many highly educated experts, but also ordinary technicians—brick layers, locomotive drivers, shipwrights, boilermakers, coppersmiths, and draftsmen. By 1875, there were 527 foreigners on the government payroll, and many more in the employ of private firms. But once the Japanese working alongside them had learned their skills, the foreigners were laid off.

Thousands of Japanese students also went abroad during the Meiji years, many at their own expense. There was no problem of a "brain drain," because most of the students, coming from samurai families, were imbued with the great sense of public responsibility their class retained. Not incidentally, they also knew that they could command prestige and high pay back home, where the demand for people with "new knowledge" from the West was great.

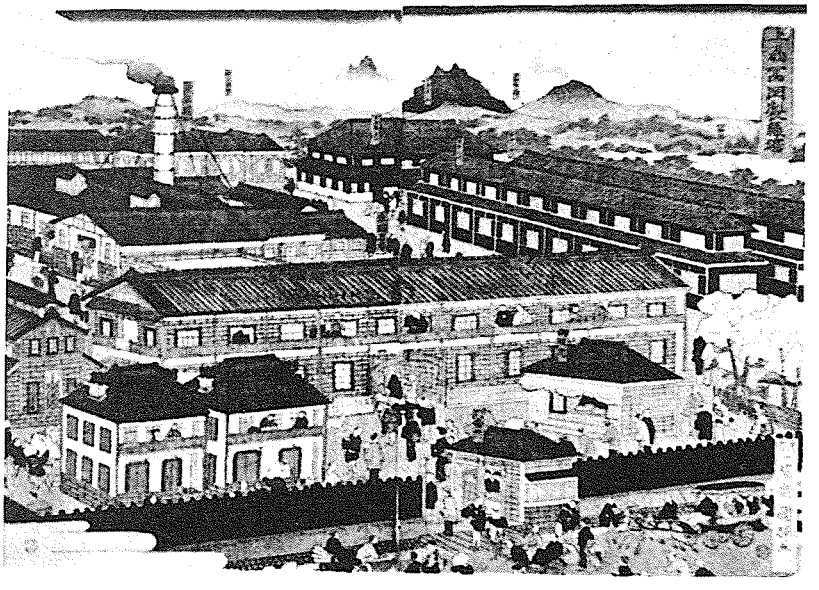
The Japanese did not borrow blindly from the West: They often discovered that foreign methods and expertise were not suited to their needs. Advice from foreign agricultural experts urging Japanese farmers to start raising cows and potatoes fell on deaf ears in a country where people ate rice and drank no milk. The Japanese needed technology appropriate to their resources, labor, and capital assets. Often, they had to simplify foreign production processes.

To promote the production of cheaper, stronger, and more uniform silk yarn, the government once imported a "turn-key" silk-reeling mill from France. Local entrepreneurs, following the basic model of the government mill, built their own plants around the country, substituting wood for brass, iron wire for glass windows, and earthen floors for brick ones to save money. They also adapted the machinery so that it could handle Japa-

nese silk, different in texture from the French variety. The government mill eventually went bankrupt, but the modified indigenous mills flourished.

Tokyo backed a number of other ventures, mostly as examples for private investors to follow. These included cement, sugar, glass, and chemical factories, shipyards, copper and coal mines, and even a brewery. (Still in operation, it produces *Sapporo* beer).

But the Meiji leaders did not want to keep the economy going by central planning or public investment. Indeed, strapped for cash in 1881, Finance Minister Matsukata Masayoshi sold off nearly all government-owned enterprises except the shipyards and some weapons factories. The government aimed instead to nurture a market economy based on private entrepreneurship and initiative. An official *Report on Manufactures* published in 1884 weighed the elements needed to spur industrialization: "It can be neither capital nor laws and regulation, because both are dead in themselves. . . . The spirit sets both in motion. . . . If we assign weights to these three factors with respect to their effec-



International Society for Educational Information, Inc., Tokyo.

Japan's first modern silk-spinning factory, shown above, was staffed by the daughters of samurai families under French supervision.

tiveness, the spirit should be assigned five parts, laws and regulations four, and capital no more than one part."

Skeptical about the adaptability of some of the traditional merchants (the Mitsui family motto was, "Do not put your hand to any type of activity that has not been done before"), the government tried to cultivate a new class of indigenous private investors, entrepreneurs, and business managers. During the 1870s, Tokyo introduced laws of contract and property, banking laws, and joint stock company regulations in the hopes of encouraging and protecting investment. By the mid-1880s, Japanese entrepreneurs had set up a number of highly successful private companies—the Nippon Railway Company, the Mitsubishi Steamship Company, the Mitsui Trading Company, and the Dai-Ichi Bank. Many companies established during this period are giant corporations today.

The Path to Ruin

Because all these firms benefited in some way from government subsidies and contracts, it is tempting to see in the Meiji era the beginnings of "Japan, Inc." But such practices were also common at the time in Italy, Germany, and other Western nations, where state intervention was thought necessary to catch up with Great Britain. (Tokyo's expenditures averaged about 12 to 14 percent of national income—roughly the same as London's.)

Nor was the Japanese government a major employer: There were only 37,000 people (0.19 percent of the working population) on the public payroll in 1880. And while the Meiji government took an active interest in the nation's businesses, it could not force them to do what they did not want to. At the turn of the century, the Minister of Commerce, hoping to increase cotton yarn exports, urged the heads of several major spinning companies to merge; they politely but firmly refused.

By 1900, barely three decades after the Meiji Restoration, Japan was well along on the road to modernization. The overwhelming majority of the people were still tied to the land, but their farms were productive. The nascent industrial sector was expanding rapidly, fueled by heavy private investment and favorable government policies. Textiles, mostly cotton cloth and silk, made up more than half the country's exports, with tea and other food products running far behind at about 25 percent. The economy was growing by five to six percent annually, compared to America's growth rate of about eight percent; Japan's GNP per capita stood at about one-tenth of the American level.

Meanwhile, a series of political reforms, culminating with

the Meiji Constitution of February 1889, had brought modern, if not very representative, government to Japan. The constitution, a "gift" from the Emperor to his subjects, provided for a bicameral Diet, with the power to approve the national budget and pass some legislation of its own. Membership in the upper house of the Diet was restricted to a new class of peers named by the Emperor, and fewer than a half-million people (the leading taxpayers) were eligible to vote in elections to the lower house. Much of the real power remained in the hands of a Premier and his Cabinet, both established by an 1885 imperial edict. The Emperor made all appointments to these positions, acting on the advice of the oligarchs and the bureaucracy.

For all its successes, the Meiji "economic miracle" also had its costs. Many were of the kind that most developing economies experience—inequalities in income distribution, a growing cultural and economic gap between country and city, trade deficits, exploitation of child and female labor, and occasional corruption of politicians by businessmen.

But there was one peculiarly ironic long-term cost in the case of Japan. The Meiji leaders had begun their quest for "national wealth and strength" to be free of dependence or foreign domination. But as industrialization accelerated, the economy became more and more dependent on the outside world. By the turn of the century, government and business leaders were talking about the need for foreign capital to fuel continuing growth, for foreign raw materials to feed their factories, and for overseas markets to earn the money to pay for essential imports. The result was the rapid growth of the export trade, now handled by Japanese trading firms, which quadrupled between 1896 and 1914 alone.

If history proceeded in a logical fashion, this new trend should have made Japan more internationalist in outlook and solicitous of foreign countries that could supply the markets, raw materials, and capital it desired. But the times were not right. At the turn of the century, the Western imperial powers were stepping up their activities in Asia and around the globe. Japan's leaders, following the West's example, deliberately chose to turn their country into the kind of expansionist power they had felt threatened by during the 1850s. Their decision set Japan on a path that eventually led to ruin.

AN EMPIRE WON AND LOST

by James B. Crowley

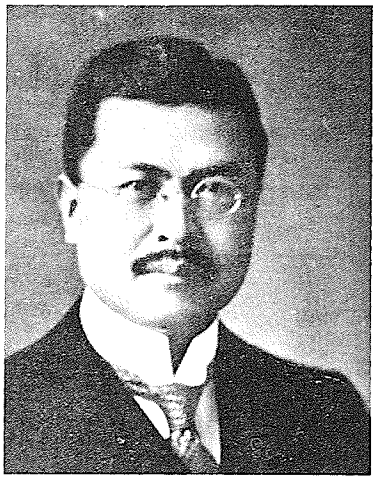
In 1905, some 50 years after Commodore Matthew Perry's squadron sailed unchallenged into Tokyo Bay, Japan astonished the world by trouncing Tsar Nicholas II's Russia in a modern East Asian war. Imperial Japan had made its entrance onto the world stage.

Nobody should have been surprised. After 1889, when the Meiji Constitution established a solid political foundation at home, Japan's leaders had immediately turned their attention overseas. Beginning with the brief 1894–95 Sino-Japanese War, Tokyo embarked on a program of military and economic expansion, first to secure its gains against the Western powers active in Asia, and later to attain autarky—self-sufficiency in the raw materials that Japan itself lacked. That program produced an economic growth rate surpassing any in the world and an empire encompassing almost three million square miles of land and sea. In the end, however, it also brought disaster.

For more than half a century, Imperial Japan was driven by a curious dynamic, derived from the paradoxes at the heart of its national existence. Imperial Japan called itself modern and aspired to join the community of civilized nations, but it was also a sacerdotal state, based on a cult of loyalty to an Emperor who was revered as the direct descendant of the sun goddess Amaterasu Ōmikami. Imperial Japan prized science and technology but outlawed scientific inquiry into the Emperor's mythical origins. While striving to free itself of the "unequal treaties," a legacy of Western imperialism, it charted a course of *Eastern* imperialism for itself. Even as they tirelessly modernized their economy, many Japanese sought to preserve their traditional, patriarchal culture.

Imperial Japan developed in three phases. From 1890 to 1923, national industries began to emerge, and Tokyo set off on a drive for empire, almost out of an instinct for survival. After 1924, in the flush of a new prosperity, Japan flirted with constitutional monarchy and peaceful diplomacy abroad. Eight years later, the democratic interlude ended as the Japanese military reasserted its power, methodically expunging Western-flavored liberalism and embarking on a renewed quest for empire.

From the beginning, it was not Japan's industrialists and



Courtesy Michitaro Shidehara, and Jiji Press and Pan-Asia Newspaper Alliance.

Takahashi Korekiyo (right), a pro-military Finance Minister, was assassinated in 1936 by radical officers who felt he was too moderate. Shidehara Kijuro (left) led the internationalist faction of Japan's prewar civilian leadership and became Premier in 1945.

financiers who demanded an expansionist foreign policy, but her military and political leaders. Despite its accomplishments, Japan in 1890 was still not an industrial nation—manufacturing accounted for less than 10 percent of GNP—and businessmen had little need for new overseas markets or raw materials.*

The imperialist impetus arose chiefly out of Tokyo's sense of insecurity about the country's future. The European powers had divided most of Africa and Asia into exclusive "spheres of influence," where they monopolized trade. Nearby, China was of particular concern. With Britain, France, and Russia slicing up what one American official called "the Chinese melon," it seemed that Japan would have to jump in or risk being forever deprived of Manchuria's iron and coal—which Tokyo knew would be needed one day, if not yet. As Yamagata Aritomo, one of the powerful Meiji oligarchs, put it: "The independence and

*Their chief requirement was raw cotton for the burgeoning textile firms. Steel, chemicals, machinery, and other necessities of modern industry were purchased overseas, not made at home. Japan's primary natural resources were low-grade coal (not suitable for steel making) and running water for hydroelectric power. Everything else had to be imported.

self-preservation of a country depend, first, upon the defense of its 'cordons of sovereignty,' and, secondly, upon the defense of its 'cordons of interests,'" outside the country's borders.

In July 1894, Japan went to war with China, ostensibly to guarantee Korea's independence from Peking. After routing an ill-equipped Chinese Army in only six months, Tokyo dictated stern peace conditions: Peking had to keep its hands off Korea, cede Taiwan to Japan, pay a $177 million war indemnity, and lease the Kwangtung Peninsula to Japan. Kwangtung, in southern Manchuria, was the real prize.

Factory Feudalism

This victory planted the seeds of the next war, because Russia had her own designs on Manchuria and, with French and German backing, demanded that Tokyo relinquish control of Kwangtung. Japan capitulated. Immediately, however, the Japanese Diet authorized a massive arms build-up, determined to "suffer privation to achieve revenge." Beginning in 1896, Japan beefed up her military with six new Army divisions, four battleships, 16 cruisers, and 23 destroyers.

In 1904, four years after Russia occupied southern Manchuria, Tokyo declared war.

After more than a year of fighting, the conflict was finally decided at sea, when the Japanese Navy overwhelmed a Russian fleet in the Straits of Tsushima, between Korea and Japan. This stunning victory, in which the Russians lost all but 10 of their 35 ships, catapulted Japan to the level of a major power.*

Whatever else they accomplished, Japan's conflicts with China and Russia confirmed one thing: The chief spur to the nation's economic growth would be war—the preparation for war, the waging of war, and the fruits of war.

Between 1896 and 1913, military expenditures accounted, on average, for 66 percent of Tokyo's budget. The government invested heavily in arms, as it had in the past, but it also began fostering basic heavy industries to supply the shipyards and

*Under the Treaty of Portsmouth (New Hampshire), the Japanese won back Kwangtung and acquired ownership of the South Manchurian Railway connecting Port Arthur and Mukden. Tokyo formally annexed Korea in 1910.

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weapons makers. Much of the capital came from the huge Chinese war indemnity, worth three times as much as the government's gold and silver holdings. Tokyo built the first large Japanese steel mill in 1901, Imperial Steel. (Japan remained a steel importer, however.) Textiles and raw silk remained the leading products sold overseas; exports of cotton cloth and clothing grew nearly sixfold between 1900 and 1913.

The key industrial institutions of the day were the *zaibatsu* (financial cliques). These sprawling conglomerates were usually run by a family bank or holding company. Each zaibatsu, typically, was active in a number of fields—heavy manufacturing, foreign trade, textiles, shipping. To head off an incipient Western-style labor union movement, the zaibatsu managers revived the "beautiful customs," as one put it, of Tokugawa Japan. Employees were offered lifetime employment in return for complete loyalty to the company. The managers declared that profits should be secondary to the "heavenly assigned work" of serving the Emperor.

Such deference to authority was reinforced at the elite imperial universities, where the business, labor, and governmental leaders of the future were inculcated with Tokyo's statist doctrine. Students were taught that the government ruled in the name of the Emperor, acting as his administrator and standing above party, class, and economic interests. Partly as a result, once Tokyo made a decision, most Japanese acquiesced.

A Wartime Bonanza

The zaibatsu worked closely with the government. Tokyo needed their considerable capital resources to achieve its modernization goals and rewarded cooperating firms with lucrative contracts and business opportunities. Among Japan's chief aims: development of Taiwan and Korea as food sources (mainly rice and sugar), and the exploitation of Manchuria's vast mineral resources through the South Manchurian Railway and its subsidiary corporations.

The outbreak of World War I in 1914 brought one of the biggest bonanzas in Japanese history. Tokyo wisely entered the conflict on the side of the Allies but limited the country's military role mainly to escorting Allied merchant ships. Afterward, Japan was rewarded with title to the German Pacific territories and the Marshall, Caroline, and Mariana island groups. But the real spoils of war lay in overseas trade.

From 1914 to 1919, Japan's GNP nearly tripled as the Japanese provided munitions and shipping services to the be-

leaguered Allies and picked up the slack in their old Chinese and Southeast Asian markets. The wartime boom brought $1.5 billion into the country, far exceeding all its trade deficits since the Meiji Restoration. Most of the windfall, $900 million, was garnered by the zaibatsu merchant fleets, which doubled in size during the war. Japan's steel mills and shipyards prospered.

The economic policies of Takahashi Korekiyo, who became Finance Minister in 1918, are typical of the entire 1890–1923

THE JAPANESE EMPIRE: 1895–1945

Source: Richard Sims, *Modern Japan* (1973).

Under the slogan "Asia for the Asians," Japan extended its rule to some 419 million people; but its colonial policies were harsh and exploitative.

era. Takahashi spurned foreign capital, except in colonial ventures firmly under Tokyo's thumb, such as the South Manchurian Railway. He looked to China, Manchuria, Formosa, and Korea as the foundation of a self-sufficient "yen bloc," where Japan would have assured access to raw materials and markets for its finished products. Most important, he believed in deficit public spending, devoted mostly to Navy expansion, to spur industrialization.

After World War I, however, such policies were gradually abandoned. At the 1921–22 Washington Naval Conference, Tokyo agreed to reduce its Navy in return for American and British promises not to fortify additional bases in the western Pacific. At about the same time, Japan was moving toward a form of liberal parliamentary democracy.

Japan's form of government had remained essentially unchanged since 1890. The Meiji oligarchs, the military, and the bureaucracy, ruling in the name of the Emperor, had wielded most of the power. The Cabinet was "transcendental"—appointed by the Emperor without regard to parliamentary majorities in the Diet. In 1924, however, both major political parties, the conservative Seiyukai and the liberal Kenseikai, joined in loudly opposing an attempt to organize another transcendental Cabinet, and the Emperor invited the majority Kenseikai to form a Cabinet, inaugurating a brief period of party rule. The new Premier, Kato Takaaki, proclaimed the "flowering of democracy."

Trading Guns for Butter

Baron Shidehara Kijuro, the Foreign Minister, was the exemplar of the new era. Shidehara, a career diplomat tied by marriage to the Mitsubishi clan, announced a new China policy based on "international cooperation." He promised to set aside "territorial aggressive intentions" and to help China on its path to "peaceful unification" under Chiang Kai-shek.

Shidehara and the Kenseikai (renamed Minseito in 1927) pursued an economic strategy geared to international markets rather than the yen bloc. Shidehara encouraged further armament limitations, promoted foreign investment in Japan, and emphasized the reorganization and concentration of industry for the export trade. He wished he had never heard of the South Manchurian Railway, which he considered a foolish diversion of capital and a sore point in relations with China and the United States. At home, the Kenseikai pushed for democratic reforms, granting universal male sufferage in 1925, while Shidehara reduced military spending to an average of 33 percent of the

national budget, the lowest proportion since 1894.

The new political and economic liberalism of the 1920s coincided with Japan's poorest growth rate of the 1890–1945 period. But the "slowdown" was due mostly to events beyond anyone's control—the end of the war boom, the devastation of Tokyo by a massive earthquake in 1923, a financial panic in 1927 (brought on by the banks' overextension of credit), and the Great Depression. Indeed, the Kenseikai strategy of tight money and military cutbacks produced some immediate and long-term payoffs. Despite the deceleration, Japan had the highest rate of industrial growth in the world during the 1920s, with production increasing from $31.3 billion in 1923 to $49.6 billion in 1932. Partly because the government had encouraged exporters to form cartels, overseas trade stayed on an even keel. During the first two years of the Great Depression, exports declined but then quickly bounced back.

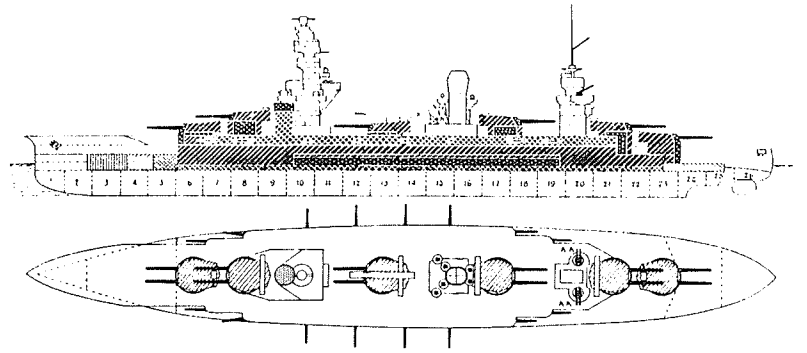
By 1928, the Japanese had developed the most efficient textile plants in the world. They began to parlay their gains into advances in other industries. Toyoda Kiichiro, founder of Toyota, built his first automobile plant with the profits he made by leasing his patent for textile machinery to the British. By 1930, a new electric appliance industry, producing lamps, light bulbs, and other consumer items (the first "cheap Japanese goods"), was thriving. By opening up new markets in Africa and Latin America, where few people could afford the more expensive American and European products, the industry grew briskly.

Prosperity and Its Discontents

The 1920s were years of relative affluence, and Western ways and ideas enjoyed a resurgence in Japan, at least in the cities. By 1930, *basu-boru* (baseball), once reviled by Meiji intellectuals, had become the national pastime. Emperor Hirohito (crowned in 1926) symbolically legitimized the sport by attending a game between Waseda and Keio universities.

Hollywood movies were the rage, and Douglas Fairbanks and Mary Pickford became matinee idols. Lavish new department stores along the Ginza, Tokyo's Fifth Avenue, made window shopping a popular outing. New Japanese merchandise (produced by domestic cottage industries) mirrored the latest Western fashions in everything from furniture to clothing. At night, jazz bands and dance halls drew throngs to the entertainment districts of Ōsaka and Tokyo.

Most social critics despaired over the new "decadence," condemning it as "the Americanization of Japan." Moreover,



Reproduced by permission of Jane's Publishing Co., Ltd. From Jane's Fighting Ships 1941.

Launched in 1914, the Huso *(above), with its distinctive "pagoda" bridge, was one of nine Japanese battleships in service in 1941.*

well before the Wall Street crash in 1929, leading intellectuals were calling "monopoly capitalism" the gravest threat to the Japanese way of life and denouncing the zaibatsu and the political parties as "self serving" and "evil." They looked to the throne to save Japan by carrying out a second Restoration that would bring the nation back to its authentic cultural heritage.

These ideas were well received in the countryside and in the military, particularly the Army. Rural Japan had not shared in the prosperity of the 1920s. The mass production (after 1918) of rayon, a cheap synthetic substitute for silk, bit into the profits of silk producers and of the largely rural silk reeling and weaving industries. The rural decline was compounded by a surge of rice imports from Korea and Taiwan, which depressed farm profits at home. The Army, meanwhile, saw its once-high prestige waning under Shidehara's internationalist foreign policy.

Civilian groups such as the radical Society for the Preservation of the National Essence, which called for the redistribution of land and personal fortunes and the nationalization of industry, attracted a great deal of attention but had little real influence. The Army, however, was another story.

The Army was unhappy over the "domestic unease" brought on by liberalism and over Tokyo's restraints on military spending. By 1931, the "Control Faction," comprising most of the General Staff, had decided that survival of the empire required control over all of Manchuria and the imposition of stern imperial rule at home. China, which was beginning to unify and turn

against Japan, would have to be subdued, too. The General Staff's strategy called for accelerated exploitation of Manchurian resources and rapid industrialization of the colony under Army control. Once Japan had become a giant industrial power, the generals argued, it would have the power to drive the United States, its main adversary, from the Pacific. It was, in effect, a doctrine of waging war in order to wage more wars.

Worshiping War

In September 1931, a group of Army officers in Mukden blew up a section of the South Manchurian Railway, calling it the work of Chinese saboteurs. Within a few weeks of the "Manchurian Incident," Japan's Kwangtung Army, acting on its own authority, had seized all of southern Manchuria. The Manchurian Incident also prompted a wave of extremist terrorism at home, culminating in the assassination of Premier Inukai Tsuyoshi by the Blood Pledge Corps, a radical Navy-civilian group, in May 1932.

In the wake of these incidents, party government, like the irresolute government of the Tokugawa *shōgun* before it, was discredited. Party rule was abandoned in favor of nonparty "national unity" Cabinets. These generally followed the military's will, especially in the matter of military spending and the need to create a self-sufficient empire. Takahashi Korekiyo returned to his post as Finance Minister and reinstituted his stimulative policy of deficit financing for arms.

This time, however, even more of the money went to heavy industry—the producers of tanks, planes, trucks, and other weapons of modern warfare. By 1935, Takahashi had increased total government spending by 44 percent—nearly doubling arms outlays but increasing civilian expenditures by only 20 percent.

Takahashi soon had the economy running at full steam and contemplated a lid on military spending. That idea died with him in 1936, when he was assassinated by extremist Army officers. The more moderate General Staff quelled the mutiny but later that year demanded the return of an old practice: naming only active officers to the War Minister's post. With one of their own now required for the formation of a government, the military exercised effective veto power over any Cabinet. During the next four years, military spending quadrupled.

At the same time, Tokyo systematically re-emphasized traditional values, particularly loyalty to the Emperor. In 1937, the Education Ministry published a textbook called *Basic Principles*

of the National Polity. It attacked individualism as the cause of "ideological and social confusion and crisis" and proclaimed that "our national economy is a great enterprise based on His Majesty's august Will to have the Empire go on developing for ever and ever, and is a thing on which the subjects' felicity depends." A War Ministry pamphlet was blunter: War, it declared, is the "father of creation and mother of culture."

Meanwhile, at the Army's insistence, Japan was investing heavily in Manchukuo, a puppet state it had created in Manchuria in 1932. The Army wanted to exploit the region's iron and coal and to build up an industrial base in steel, chemicals, and machinery to support the growing war machine. By 1945, Japan had sunk more capital into the colony than the British invested in India in more than 200 years.

In 1937, the long-simmering conflict between Japan and Chiang Kai-shek's Nationalist government in China erupted into open warfare. The immediate cause was the "Marco Polo Bridge Incident"—a skirmish between Chinese soldiers and a small Japanese force stationed near Peking. As Japan plunged into what would become a wider Asian war, the military's grip on the nation became unshakable.

In the End, Kamikazes

In 1938, Tokyo announced its plan for a "New Order" in East Asia, calling for the economic unification of Japan, Manchukuo, and China—"the victim of the imperialistic ambitions and rivalries of the Occidental powers"—under Tokyo's direction and protection. It was the old idea of a yen bloc in new clothes. In 1940, with the British and French fully engaged in the struggle against Hitler's Germany, Japan extended the New Order to all of Southeast Asia, announcing its intention to forge a "Greater East Asia Co-Prosperity Sphere." Implicitly, the sphere encompassed French Indochina, the Dutch East Indies, and Britain's colonies, Hong Kong and Malaya. As the government explained, "This change was dictated by the necessity to shake ourselves free from our economic dependence on the United States and the British Empire by securing economic self-sufficiency in order to counter their economic strangulation of Japan."

It was clear, however, that Washington would not stand idly by while Japan took over most of the Pacific. After General Tojo Hideki was named Premier in October 1941, war became inevitable. Tojo, known as the "Razor" because of his severity as the Kwangtung Army's Chief of Staff, ordered the attack on

Pearl Harbor on December 7, 1941 (followed by lightning strikes at British, Dutch, and other U.S. outposts). This was done not with the hope of defeating America in a protracted war but in the belief that Washington, with its Pacific fleet crippled, would have no choice but to sue for peace if squeezed between Nazi Germany and Japan. Of course, it did not turn out that way.

At home, the war effort accelerated the growth of the zaibatsu, dutifully doing their bit to aid in the mobilization. By 1944, four zaibatsu—Mitsui, Mitsubishi, Sumitomo, and Yasuda—owned or controlled 25 percent of Japan's business firms, 50 percent of the country's mortgages and loans, and 32 percent of all heavy industry. But compared to that of its chief foe, Japan's wartime output was woefully inadequate. In 1943, even before U.S. bombing raids began, Japanese military aircraft production totaled 10,000, versus 85,000 in the United States. Moreover, Japanese war technology, with the notable exception of shipbuilding, lagged well behind the accomplishments of its enemies—in radar, in communications, in long-range bombers, not to mention in atomic energy—or of the Germans, who fielded rockets and jet aircraft.

By war's end, the Japanese military had been reduced to relying on *kamikaze* raids as a counter to American might. Of the major urban centers, only Kyōto, the old imperial capital, survived intact. Three million Japanese had perished in the conflict. The search for autarky, begun only 50 years earlier with the Sino-Japanese war, ended with Japan occupied by a foreign power, the worst fear of the old Meiji oligarchs. Japan, which had yearned for self-sufficiency, wound up unable even to feed its people.

In defeat, Emperor Hirohito turned to the living symbol of Japan's liberal interlude, the aging Shidehara Kijuro, to help guide the country's reconstruction. In late 1945, Shidehara peered beyond the rubble and, with American backing, began charting a course for Japan more in accord with his internationalist aspirations. The years of military expansionism were over, but a new, peaceful kind of empire-building was about to begin.

SUCCESS STORY

by Patricia Hagan Kuwayama

If there is one common theme running through the story of postwar Japan's economy, it is rapid, unceasing change. Japan is dependent on the outside world for most of its raw materials (including 99 percent of its oil). It is far more vulnerable than America or most West European countries to the vicissitudes of the international marketplace. To compensate, the Japanese have made many wrenching adjustments—mostly ignored and seldom imitated in the West. Over the past 36 years, only through great adaptability and continued domestic competition has Japan been able to survive and succeed in the marketplace.

The most painful adjustment Japan had to make was to its plight after World War II. The war left Japan with about one-quarter of its capital investment destroyed, including nearly all of its shipping, one-quarter of its housing, and many factories. In 1946, industrial output stood at less than one-fifth of its 1934–36 average, and farm output was down 40 percent.

Agriculture recovered relatively quickly. Farm production reached prewar levels by 1950; but Japan's population grew by 11 percent during the same period, mainly because millions of Japanese soldiers and civilians were repatriated from overseas. So individuals still had little food to eat.

Industry was slow to recover. Crippling shortages of raw materials and bottlenecks in the production process kept Japan's factories from functioning normally until some time between 1952 and 1955, when prewar production levels were finally restored. Mass unemployment (10 million people in 1946) and a wholesale price index that rose 6,000 percent between 1945 and 1950 complete the portrait of a nation in distress.

At first, it did not appear that Japan's economy would get much help under the U.S. Occupation. The Occupation authorities, under General Douglas MacArthur, victorious commander of the Allied forces in the Pacific, had a mandate to permit a limited reconstruction of those Japanese industries that would, according to the 1945 Potsdam Declaration, "sustain her economy and permit the exaction of just reparation in kind, but not those which would enable her to re-arm for war." Under the first reparations plan, at least three-quarters of Japan's surviving shipbuilding facilities and steel mills, all of its aluminum and

magnesium plants, and half of its machine-tool factories were to be dismantled and shipped to Japan's former colonies in Asia—Taiwan, Korea, the Philippines. But the Americans began to fear that Japan would become forever dependent on Washington's aid, which reached $2 billion by 1950. MacArthur's headquarters cut these plans by 90 percent. (Japan was still required to pay reparations of more than $1 billion over 20 years.)

MacArthur as Emperor

Soon after the Occupation began, the Americans set out to cleanse Japan of what they regarded as its militaristic ways. The first step was the "demystification" of the Emperor; he renounced his claim to divine descent in 1946 but remained titular head of the government. (Baron Shidehara Kijuro was named Premier in 1945, but MacArthur was the de facto head of government until 1950.) Also in 1946, the Japanese were forced to accept a new American-inspired constitution—grafted onto the 1868 Meiji Constitution as an "amendment." This instrument established parliamentary democracy on the British model and created an independent judiciary. It also limited military activity, thereby alleviating future strains on the national budget. (Japanese military spending has remained below one percent of GNP ever since.)

The Occupation also brought major social reforms. By the end of 1946, almost five million workers had joined unions, which American officials considered essential to democracy, despite the fact that many were organized by communists. Later, however, the Americans tacitly backed Tokyo's crackdowns on the unions, which had proved to be extremely militant. Also in 1946, the Diet passed a major land reform law. Japanese landlords were required to sell off about one-third of the country's farm land, most of what they owned, to their tenants. Japanese farms remained tiny—averaging about two and a half acres—but the new landowners had greater incentives to produce.

The *zaibatsu* were another target of American democratic reformers. MacArthur told the Japanese people that the zaibatsu system had "permitted the major part of the commerce and industry and natural resources of your country to be owned

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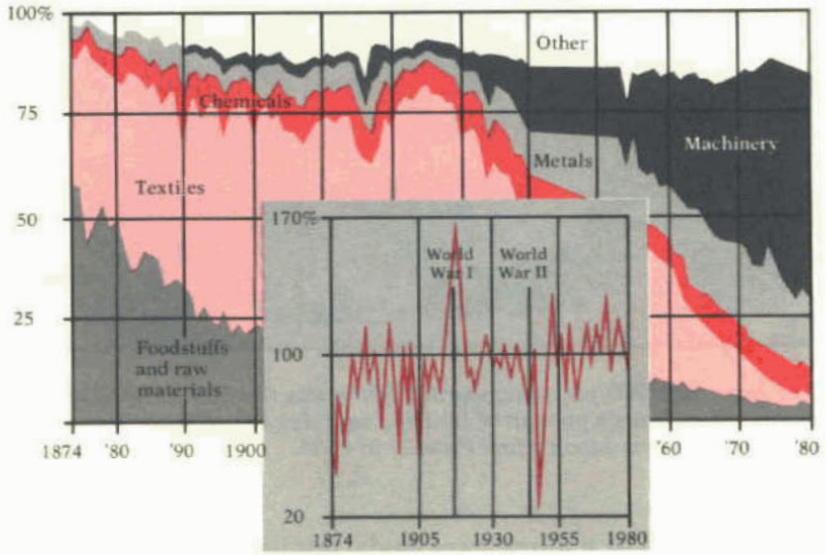
The Japanese 1000 yen note, worth slightly less than $4 at late-1981 exchange rates, bears a portrait of Itō Hirobumi. Itō, one of the original Meiji oligarchs, became Japan's first Premier in 1885.

and controlled by a minority of feudal families and exploited for their exclusive benefit." Some 1,200 zaibatsu companies were slated for dissolution; strong antitrust laws and a Fair Trade Commission to enforce them, both based on American models, were established. Finally, the Occupation authorities purged more than 200,000 leaders from positions in government, business, and other fields. But again, in practice, the program was scaled back sharply as the Americans' emphasis shifted from punishing Japan to helping it. Only 19 firms were actually dissolved. The antitrust laws remained in effect, however, and later helped to ensure the competitiveness of the domestic economy.*

The last major Occupation reform was the 1948 "Dodge Plan" for fiscal and monetary reform (named after the Detroit banker, Joseph Dodge). To curb inflation, the plan prohibited deficit spending (Japan's budget never ran in the red again until the mid-1960s); and it restored the yen as a convertible currency at a fixed rate to aid in the renewal of overseas trade. As a result of Tokyo's budget slashing, 30 percent of all government workers were laid off in 1949, and the knife cut even deeper in many large private firms, when Tokyo cut back on recovery loans to industry. As Tokyo had feared, the layoffs sparked violent labor demonstrations. No one could have known that within a year,

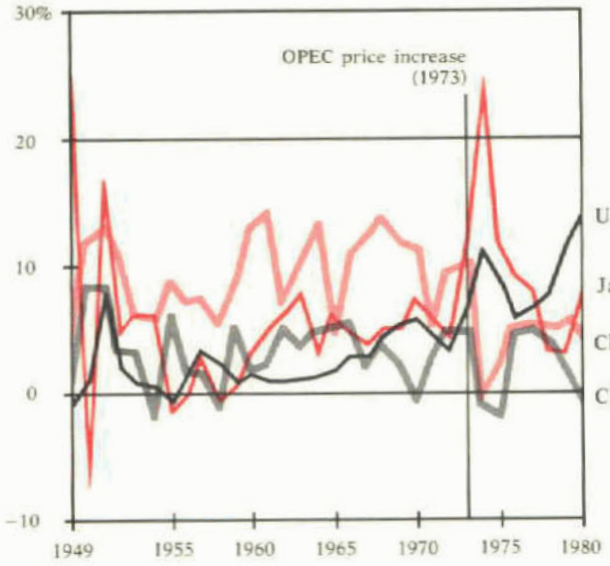
*Some of the zaibatsu family names, such as Mitsui and Mitsubishi, have reappeared as *keiretsu* (financial groups) in the postwar period. But the modern keiretsu have far less political and economic power than the old zaibatsu.

JAPAN'S CHANGING EXPORTS, 1874–1980



Source: Kazushi Ohkawa, *Estimates of Long Term Economic Statistics of Japan since 1868* (1967); Kazushi Ohkawa and Henry Rosovsky, *Japanese Economic Growth* (1973); International Monetary Fund; U.S. Bureau of Economic Analysis; U.S. Department of Labor, Bureau of Labor Statistics.

INFLATION AND GNP: JAPAN AND THE U.S.



the economy would receive an enormous boost from the Korean War; otherwise, the Dodge Plan might easily have been a disaster.

Two American economists have described the Occupation as "one of the most ambitious attempts at social engineering the world has seen." Yet, judged in terms of its broad objectives—shifting sovereignty from the Emperor to the Japanese people and establishing institutions that would sustain that shift—the Occupation was a successful experiment. In redistributing power, thereby setting the stage for the growth of a robust, modern economy, the Occupation authorities went well beyond what could have been expected of the Japanese acting alone.

The Boom Years

During the late 1940s, however, Japan's future did not look bright. One American geographer wrote in 1949 that Japan, with its meager endowment in land and natural resources—no oil, iron ore, or copper to speak of—could never regain the relative prosperity of the 1930s except by depending indefinitely on foreign aid. To become self-supporting would, in his view, require "political, social, and economic distress and a standard of living gradually approaching the bare subsistence level." Economists tended to be less fatalistic, but all observers were in for some big surprises.

The first was the Korean War boom after June 1950, which provided a timely windfall for Japan, just as the outbreak of World War I had, 36 years before. As a supplier of trucks and equipment, a repair station for the United Nations forces, and a recreation ("R&R") area for Allied troops, Japan reaped some $800 million in foreign exchange in the first year of the conflict. Within three years, its wartime earnings exceeded all U.S. aid received since 1945. By 1952, when the Japanese-American Peace Treaty was signed, ending the Occupation, Japan had recovered from the worst effects of the Pacific War. The critical bottlenecks in industry had been eliminated, and manufacturing output had nearly quadrupled since 1946, surpassing the levels of the mid-1930s.

Yet, after the 1953 Korean Armistice, there was no reason to

Japan's exports, though considerable, amounted to only 15 percent of GNP in 1980, about half the proportion in West Germany. Yet some Japanese industries rely heavily on foreign markets to fuel expansion. Japan's vigorous growth rate has kept its workers' pay safely ahead of the relatively high inflation rate.

AUTOS: A JAPANESE RECIPE

In 1951, Tokyo decided to promote the growth of Japan's auto industry. At the time, Toyota, Nissan (maker of Datsuns), and Prince (later merged) were the nation's only established automakers. Within a decade, they were joined by six new competitors. Strong domestic rivalry, and government encouragement, were essential ingredients of success.

At first, all but two of the companies relied upon imported technology and components. By 1960, total annual production had risen to a meager 100,000 cars (about one-tenth of them for export), but most of the companies had acquired the know-how to go it alone. Tokyo's Ministry of International Trade and Industry (MITI) had erected tariff and quota barriers to shield the fledgling industry from overseas competition. During the early 1960s, MITI tried to force the seven smaller companies to merge. Three went along, but Isuzu, Mitsubishi, Fuji, and Toyo Kogyo refused. MITI made some token loans to support what were now six producers (joined by a seventh, Honda, in 1963). Then it stepped aside.

As tariffs waned, the Japanese automakers competed vigorously at home and abroad. Beginning in 1961, when most of their exports were going to Southeast Asia and Latin America, they beat Detroit's Big Three on price. They began catching up in volume, increasing production 20-fold during the 1960s and replacing West Germany as the world's No. 2 auto producer in 1970. Then, they began catching up in quality. In 1980, Japanese automakers captured 23 percent of the American market, and, with worldwide sales of 10 million cars, replaced Detroit as the world's No. 1 producer.

The Japanese companies enjoy several advantages. Productivity is high: In 1977, the average Japanese autoworker turned out 33 cars annually, while his better-paid American counterpart produced 26. Japanese managers earn between a quarter and a third of what American counterparts make. Japan's automakers have a $1,500 "sticker- price advantage" over Detroit, of which an estimated $420 is due to lower labor costs. Good management accounts for part of the remaining difference. Ironically, the Japanese acquired many of their factory techniques, such as the much-publicized "quality circles," where managers and workers meet to solve assembly line problems, from American advisers.

expect expansion to continue at the same pace. Japan had a GNP per capita of only $188 in 1952, lower than Brazil's or Malaysia's at the time. Tokyo published a five-year plan in 1956 that allowed for GNP growth of five percent annually, about half the rate of the previous decade. The next year, the estimate was moved up to a daringly optimistic 6.5 percent. Even this projec-

tion proved to be too modest. On average, real GNP grew by more than nine percent up to 1960, led by the manufacturing and mining (mostly coal) industries.

By 1970, Japan's economy was producing four times the real output it had in 1955. Measured by GNP, it had become the third largest economy in the world, behind only the United States and the Soviet Union. Because population grew by only 16 percent (to 105 million in 1970), salaries rose, and the demand for consumer goods began to build up. By the mid-1960s, there was a booming market in Japan for "luxury" goods—radios, cars, cameras—and by 1970, the Japanese were living about as well as the British. *Japan Reporting*, a government publication, summed up the mood: "Passing through the prewar and postwar periods of austerity, we longed for the splendid and rich life of Western consumers; to catch up with their life was the consensus."

One of the chief symbols of the country's new prosperity, the 130-mile-an-hour Tokyo-Ōsaka "bullet train," made its maiden voyage in 1964. Every home now had to have its "three electric treasures"—a television, a washing machine, and a refrigerator. By 1966, there was a television set in 96 percent of all Japanese homes. The next year, a nationwide poll showed that most Japanese (88 percent), like most Americans, considered themselves middle class. Japan had arrived.

Sony Makes History

"Miracle" growth brought with it major changes in the economy. Most fundamental was the continuing shift of labor from the primary industries (agriculture, fishing, and forestry) into the expanding manufacturing and service sectors. This happened much more quickly in Japan than in the West. There were even more startling changes in the make-up of Japan's output. Food products and textiles, which together comprised 37 percent of all manufacturing production in 1955, accounted for only 19 percent in 1970. Machines grew from 14 percent to 32 percent of all Japanese manufactured goods.

How can Japan's success be explained? There is no single factor that one can point to. Keen competition at home, the sacrifices of Japanese workers and industry, and Tokyo's helping hand all contributed.

Selected domestic industries were shielded from overseas competition by strict tariff and quota laws, but imports of raw materials and foreign technology were duty free. Japanese firms imported technology on a massive scale in the 1950s and '60s,

particularly machinery for heavy industries such as shipbuilding (Japan was launching more ships than any other country in the world by 1960) and for the light electric industries—precision instruments, cameras, radios, stereos. Sony paid $25,000 in 1953 for a license to manufacture transistors; the rest, as they say, is history. As in the Meiji era, Tokyo was careful to limit foreign investment, preferring to acquire technology by outright purchase or through licensing agreements. Most of these deals included provisions for training and technical guidance by foreign experts, latter-day "live machines."

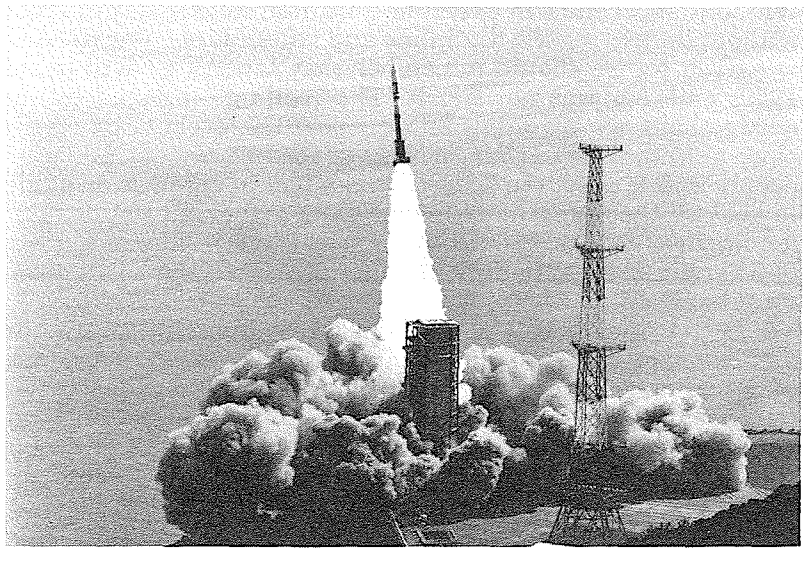
Beyond "Japan, Inc."

The new technology had a particularly strong impact because Japan was beginning with so little; there were few psychological barriers to innovation. And Japanese workers—as well educated as their European counterparts but willing to work longer hours for less pay—proved to be a far greater asset in making the new technology work than many economists had imagined. Labor cooperated with management; after the initial turmoil of the late 1940s, disruptions of production by strikes were few. (Japanese strikes, when they occur, are largely symbolic events, often lasting only one day.) And the Japanese factory worker's hourly wage averaged only 10 percent of that earned by his U.S. counterpart in 1960. (Today the hourly wage in Japan stands at about 60 percent of the U.S. level.)

Ordinary Japanese also readily deferred consumption in the interest of achieving national economic growth. Japanese workers have always been more willing than others to save. In 1958, they banked about 15 percent of their disposable income while workers in the United States, West Germany, and France were saving six to eight percent of their pay. (Today, the Japanese rate is up to about 21 percent; the U.S. rate is less than five percent.) Japanese firms also plowed a far larger share of their profits back into the business than Western companies did. All told, the Japanese reinvested close to 32 percent of their GNP between 1956 and 1960, most of it in new factories and equipment. This was—and is—a unique accomplishment for a peacetime democracy.* One result: The average Japanese factory is only 10 years old. In America, the average factory is 40 years old.

The government's contribution to Japan's economic success is difficult to quantify. Tokyo's official "plans" had few teeth

*As American "supply side" economists delight in pointing out, Japan has no capital gains tax, except on land sales; and tax rates on personal income are far less steeply progressive than those in America. Such policies are said to encourage work and saving. —ED.



Courtesy of the Institute of Space & Aeronautical Science.

The satellite Tansei III *is launched, February 1977. Japan put its first satellite into orbit in 1970. Today, the $477 million budget for Tokyo's space program is about one-tenth the size of NASA's.*

and seldom provided good forecasts, but the industries that Tokyo targeted for growth usually attracted needed private investment. The big banks supplied generous credit, partly because of official pressure and partly because Tokyo's blessing usually meant the investment would be safe and profitable.

Moreover, under the unbroken 26-year reign of the conservative Liberal Democratic Party that began in 1955, the government created an environment that was highly favorable to private business, offering financial incentives to investors and to successful exporters. First, Tokyo singled out basic industries and shielded them from import competition—steel, chemicals, shipbuilding—then the auto industry and some of the appliance industries. Today, Tokyo is promoting the growth of "knowledge businesses" such as computers and semiconductors. In favoring particular industries, the authorities seldom fell into the trap, common in the West, of trying simply to preserve jobs, a course that tends to freeze the industrial structure and thwart

needed change.* Whether by luck or wisdom, the Japanese government succeeded in exerting a limited degree of guidance without destroying the discipline and stimulus of competition.

Even so, we should remember that Japan's growth in the 1950s and '60s was not steady. The "ceiling" imposed by the need to hold raw materials imports near the level of exports did close in from time to time. Whenever the balance of trade went deeply into the red, the Bank of Japan had to cut back on credit to cool off the domestic economy, thus reducing local demand for imports. The recessions that ensued were really only slowdowns. But they were difficult times, even so, and many firms went bankrupt.

By the mid-1960s, the flood of cars, trucks, cameras, radios, and heavy machinery shipped overseas had got Japan out from under its balance of payments "ceiling." Japanese industry was so efficiently turning raw material imports into finished products that the value of exports would exceed imports in all but very bad years. At first, Tokyo, basking in its new success, did not realize that it had a big problem on its hands.

Paying the Piper

Japan began racking up such huge trade surpluses with other countries—a total of $7.76 billion in 1971 alone—that it was undermining the international monetary system. (Under the system created at the 1946 Bretton Woods Conference, each nation agreed to revalue its currency if it ran consistent, large trade surpluses.) And businessmen in America and Europe clamored for new protectionist measures—the Common Market limited Japanese color television imports in the 1960s—and protested against the wall of tariffs, quotas, and other trade barriers Tokyo had quietly erected to protect its own industries.

Reluctantly, Tokyo relaxed many of its trade barriers and diverted government funding from export stimulation programs to domestic investments in housing, hospitals, and other neglected areas. But it was too little, too late. The United States alone had a $3.2 billion trade deficit with Japan in 1971. In August of that year, President Nixon announced to a surprised world that he was closing the gold window, ending the dollar's convertibility to gold. This would force countries with stronger economies, such as Japan and West Germany, to let their currencies appreciate against the dollar, which had been fixed at an

*Agriculture is a conspicuous exception. Because Tokyo protects the domestic farm sector with price supports and tariffs on food imports, the Japanese consumer pays three times as much for a pound of rice as does his American counterpart.

artificially high level. This increased the prices that American consumers would have to pay for Japanese and other foreign goods. Hence, Japan's exports to the United States, its leading trading partner, would decline.

Storm Clouds and Little Dragons

The Bank of Japan pumped new money into the Japanese economy to stimulate domestic consumption to make up for the loss of export sales. The result: 20 percent inflation. And when OPEC suddenly announced a 400 percent increase in the price of oil in October 1973, inflation shot up to 25 percent. Then the authorities clamped down on the money supply, so the shock hit hard but was over quickly. Japan's economy recovered rapidly and produced another embarrassing trade surplus by 1977. When the second OPEC "crunch" (a doubling of prices) hit in 1979, Tokyo's tight money policy proved its worth. Growth continued at about a four to six percent rate, and inflation stayed in single digits.

Compared to the rest of the world, Japan's economy performed well during the 1970s. Beneath the surface, however, there have been many painful adjustments. Higher oil prices, currency exchange rates that made Japanese goods more expensive overseas, and increasing competition from the "little dragons" of Asia—Hong Kong, South Korea, Taiwan—cut annual growth nearly in half.

Bankruptcies rose to record levels during the 1970s; twice as many firms went bankrupt in Japan in 1978 as in the United States, which has a far larger economy to begin with. Corporate profits fell more steeply in Japan after the first OPEC price shock than in either America or West Germany, and Japan's factories were operating further below capacity. The rate of productivity increase dropped off, as it did elsewhere, but Japan fell from No. 1 in this category to No. 3, behind West Germany and France.

These are among the signs that a major restructuring of the Japanese economy is underway. Manufacturing employment shrank by more than 10 percent during the last decade, with the drop in some important sectors, such as textiles and shipbuilding, reaching several times that proportion.* Government policies to finance the scrapping of obsolete equipment and to

*The total number of people employed in Japan grew only nine percent during the 1970s, largely because older workers and women left the labor force. Unemployment in late 1981 averaged two percent. One can only wonder how successfully Japan could have coped if more people had looked for jobs, as in the United States, where total employment expanded by almost 25 percent during the same decade.

retrain workers seem to have warded off the worst effects of these changes.

The question is: Will the Japanese, who have been able to make the most out of their proven ability to manage modern mass production, be able to exploit other advantages as the emphasis shifts to the services of a "postindustrial" society—banking, engineering, data processing?

Another challenge for Japan, as for its Western partners, is the aging of the work force. In Japan, this threatens the system of "permanent employment" that has served the country so well during the postwar years. Under "permanent employment," a worker is paid less than he is worth at first, and more in his last years. This provides incentives to loyalty by the employee and to investment in his training by management.

If retirement is postponed much beyond the present customary age of 55 to compensate for the shortage of younger workers, managers may have difficulty obtaining full productivity over the full span of the employee's career, eating into profits. Under the seniority pay system, Japanese companies will be paying their employees more as the average age of the work force rises, but will not enjoy a commensurate boost in output. If employers are forced to switch to a "merit pay" system, then the current pattern of labor-management accommodation will be undermined. Either way, adjustment will be difficult without the booming growth rates of the past. And if Japanese women, now 39 percent of the work force, start entering the labor market in larger numbers, as American women have done, the need for faster economic growth will be even greater.

The 1980s are proving to be a difficult decade for most industrial nations. If the Japanese people have any advantage, it is their freedom from any illusion that the future can be simply a continuation of the past—a lesson learned during the recovery from the psychological and material devastation of defeat in war. The Japanese do not assume, as do so many Americans and West Europeans, that a static industrial structure will automatically continue to provide an annual rise in living standards. The present confidence of the Japanese rests on their proven ability to adapt quickly and not to rely either on miracles or on old economic formulas to avoid painful but necessary change.

BACKGROUND BOOKS

JAPAN

In 1871, William E. Griffis, an American educator employed by the Meiji government, watched intently as a seated Japanese blacksmith worked the bellows with his feet. "Perhaps this is an important difference between a European and an Asiatic," he reflected in **The Mikado's Empire** (Harper, 1876; Scholarly Resources, 1973). "One sits down to work, the other stands up to it." From this inauspicious debut, the Western study of Japan's economy has progressed.

Asia's New Giant (Brookings, 1976, cloth & paper), edited by economists Hugh Patrick and Henry Rosovsky, is perhaps the best general guidebook. Its 23 Japanese and American contributors chronicle, sector by sector, the resurgence of the Japanese economy between the 1945–52 Allied occupation and the 1973–74 Arab oil embargo. They cover everything: macroeconomic policy; the light tax burden on individual income and savings; the paucity of flush toilets (only 17 percent of Japanese homes had them in 1968).

Two other comprehensive accounts fill the gaps before and after. **Japanese Economic Growth** (Stanford, 1973) by Kazushi Ohkawa and Henry Rosovsky describes prewar developments; Takafusa Nakamura's **The Postwar Japanese Economy** (Univ. of Tokyo, 1981) details the dislocations caused by the "oil shock."

In his **Japan Journal 1855–1861** (Rutgers, 1964), Henry Heusken, the Dutch interpreter for American consul Townsend Harris, recorded the endless diplomacy and "erratic" discussions—whether "the place" can mean both "a place" and "many places"—that preceded the opening of six Japanese ports to American commerce. Harris doggedly pressed his case. Trade, he insisted, would make Japan "the England of Asia."

Yet the first step was an "agricultural revolution" that unfolded in its own peculiar way. In **The Agrarian Origins of Modern Japan** (Stanford, 1959, cloth & paper; Atheneum, 1966, paper), historian Thomas C. Smith contends that innovations in planting, seed selection, and the use of fertilizers, all of which required private initiative, helped move rural Japan from cooperative to individual farming. The trend toward smaller farms made U.S.–style mechanization impractical, but it enhanced the role of the family in agriculture and kept people on the land before World War II, minimizing social upheaval of the kind that accompanied industrialization in the West.

Sociologist Ronald Dore describes modern farming developments in his portrayal of a Japanese village, **Shinohata** (Pantheon, 1978, cloth; 1980, paper). Machines have taken hold, freeing many farmers for employment in nearby industries and producing a new affluence. Villagers who no longer "live" off the land, however, continue to grow their own rice, a symbol of self-sufficiency. Silkworm breeding has been abandoned as unprofitable.

The special relationship that has always existed between government and business in Japan strikes some Americans as odd, others as enviable. Edwin O. Reischauer, U.S. Am-

bassador to Japan from 1961 to 1966, observes that **The Japanese** (Harvard, 1977, cloth & paper) "have never believed . . . that the less government the better for business." Such cooperation often leads to the exaggerated American claim that "government and business in Japan form a single entity—'Japan, Inc.'"

Economist G. C. Allen analyzes the government's role in development over the years in **A Short Economic History of Japan** (Allen & Unwin, 1946; 3rd rev. ed., 1972). During the Meiji era and through the 1920s, he writes, "government was not of great importance as an owner of industrial and trading undertakings or as a direct employer of labor." Tokyo influenced the private sector by other, indirect means—its association with the zaibatsu; its channeling of agricultural savings toward investment in large-scale industry.

According to most scholars, Meiji officials cemented the government-business "partnership" by careful nurture of a small, *samurai*-dominated entrepreneurial class. Economist Johannes Hirschmeier, in **The State and Economic Enterprise in Japan** (Princeton, 1965), edited by William W. Lockwood, offers Shibusawa Eiichi (1840–1931) as an example of the Meiji entrepreneur.

The son of a rich farmer, a samurai in the service of the last *shōgun*, Shibusawa prospered in government before entering private business. A backer of the First National Bank (Dai-Ichi Ginkō), he also was instrumental in founding the Osaka Cotton Spinning Company. Shibusawa urged businessmen to exemplify *bushidō* (The Way of the Samurai) and strive for honesty, virtue, "and a synthesis between the Analects of Confucius and the abacus."

Some scholars question the importance of this "samurai spirit." In **A Study of Samurai Income and Entrepreneurship** (Harvard, 1974), economic historian Kozo Yamamura claims that idealists such as Shibusawa were the exception. Impoverished by the breakup of the old feudal order, he believes, the samurai simply shared the desire of *heimin* (commoner) entrepreneurs to make money. "Poverty makes one inane," goes an old Japanese proverb.

Just as Meiji industrialists and merchants tried to retain at least a veneer of bushidō, so have ordinary Japanese from time to time betrayed nostalgic, often violent, yearnings for a simpler, traditional past. One not so ordinary Japanese was the "hybrid" Lafcadio Hearn.

A British journalist and educator, Hearn became a Japanese subject in 1895. He was enamored of the "old values" of community, hierarchy, and duty, and feared they would not withstand capitalist influences. In **Japan: An Attempt at Interpretation** (Macmillan, 1904; Tuttle, 1955, paper), he warned: "The future Japan must rely upon the least amiable qualities of her character for success in the universal struggle."

One of Hearn's contemporaries, educator Fukuzawa Yukichi (1835–1901), was rather taken with what the West could offer. Yet for Japan to assume a place among modern nations, he contended in **The Autobiography of Yukichi Fukuzawa** (Tokyo: Hokuseido Press, 1934; Columbia, rev. ed., 1966, cloth; 1980, paper), it had to embrace not only the "things" of Western civilization—the trains, the telegraphs, the warships—but also the Western spirit of independence, scientific inquiry, and entrepreneurial initiative. Japan at the time had no word for "competition," so Fukuzawa coined

kyōsō (literally "race-fight"), the term still used today.

Though the Japanese were quick learners in the market, they shunned Western models of industrial relations. In **British Factory—Japanese Factory** (Univ. of Calif., 1973, cloth & paper), Ronald Dore explains how. At the price of worker's individuality, characteristic of the British labor system, the Japanese manage their firms on principles of mutual consideration, cooperation, and orderliness. Loyalty is marked. Japanese workers typically insist that sick leave be docked from their generous annual holiday allotment.

Still, Japanese intellectuals remain troubled by modernization. Today, the most glowing accounts of the country's economic policy come primarily from foreign pens. Two examples: "Futurist" Herman Kahn's **The Emerging Japanese Superstate** (Prentice-Hall, 1970, cloth; 1971, paper) and sociologist Ezra Vogel's **Japan as Number One** (Harvard, 1979, cloth; Harper, 1980, paper).

The Japanese remain sensitive to foreign criticism, however. When, in the late 1960s, Foreign Minister Zulfikar Ali Bhutto of Pakistan characterized them as "economic animals," the Japanese promptly indulged in a display of public introspection, write Johannes Hirschmeier and Tsunehiko Yui in **The Development of Japanese Business 1600–1973** (Harvard, 1975).

One response was **The Japanese and the Jews** (Weatherhill, 1972) by Isaiah Ben-Dasan, a pseudonym for popular author Yamamoto Shichihei. Like Judaism, writes Ben-Dasan, there exists a "Japanism," a sense of tribe that outsiders can never fathom: "For thousands of years the Jews have lived in contact with the gentile population of the world, and we know how much . . . understanding that proximity has brought."

An eccentric but apt metaphor of the Japanese character (and economy) is provided in Robert Whiting's **The Chrysanthemum and the Bat** (Dodd, 1977). Baseball met an ambivalent reception in 19th-century Japan. One critic called it a "pickpocket's sport. . . . The players are tensely on the lookout to swindle their opponents, to lay an ambush, to steal a base."

The Japanese have modified the game to suit local taste. Japanese managers play a conservative brand of ball, going with the tried and true. A successful pitcher will be used day after day until his arm gives out. A samurai code for baseball stresses the "team player" who trains hard and shuns materialism.

In 1971, the Yomiuri Giants, Japan's superteam, did not win a single game against the Baltimore Orioles in an 11-game series. After a period of national breast-beating, the players returned to the practice fields. Batters lifted weights; pitchers practiced pick-off moves—all the strategies the foreigners had stressed. "The Japanese," notes Whiting, "were back to the task of making Japan a baseball power." Three years later, the Yomiuri Giants outplayed a rapidly declining New York Mets team, six games to three.

EDITOR'S NOTE: *Edward Lincoln, executive vice president of the Japan Economic Institute, and Peter Duus suggested many of the titles in this essay.*

CURRENT BOOKS

FELLOWS' CHOICE

Recent titles selected and reviewed by Fellows of the Wilson Center

THE FIFTH REPUBLIC AT TWENTY
edited by William G. Andrews and Stanley Hoffmann
State Univ. of N.Y., 1981
521 pp. $34

THE RELUCTANT ALLY: France and Atlantic Security
by Michael M. Harrison
Johns Hopkins, 1981
304 pp. $24

Having installed its first Socialist President, François Mitterrand, last summer, France is again the object of intense American interest. These two volumes provide a timely reminder of both the maverick pose that the French have long held in foreign affairs and the pattern of cooperation with NATO and the West that they have largely followed. Americans have tended to view Charles de Gaulle (President from 1945 to 1946 and 1959 to 1969) unfavorably. Seeking to expand his own authority and France's power, he was accused of undermining NATO and blocking European economic unity. Yet de Gaulle's vision was clearer and his policies were less damaging than many have supposed. Contributors to *The Fifth Republic at Twenty* examine the Constitution of 1958, which de Gaulle engineered, as well as developments in politics, economics, and foreign affairs over the decades of essentially Gaullist rule that followed. De Gaulle *did* insist on achieving French political unity and economic revitalization before moving toward European integration. But under the centralized powers of the executive, he and his successors were able to secure the highest economic growth rate in the European Economic Community between 1958 and the late 1970s.

Harrison's *The Reluctant Ally* focuses on France's development of a defense policy based on a separate nuclear force. When the United States repeatedly rejected his proposals to include France with Britain in the leadership of the Atlantic Alliance, de Gaulle set off on his own, ultimately withdrawing from the military arm of NATO in 1966. Since then,

all shades of the French political spectrum —including the Socialists—have come to accept his policy of commitment to alliance goals combined with flexible military obligations dictated by national needs. Overall, argues Harrison, a professor of European studies at Johns Hopkins, the independent behavior of France has made the Atlantic Alliance more responsive to the needs of member nations and more pluralistic—and therefore stronger in an age of international instability.

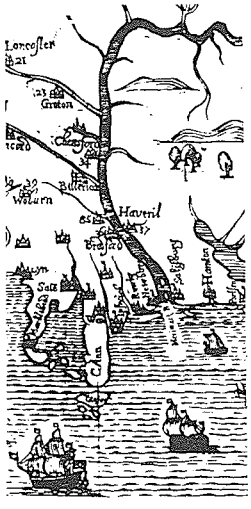
—Samuel F. Wells ('77)

OUTLAWS OF THE MARSH (2 vols.)
by Shi Nai'an and Luo Guanzhong; translated by Sidney Shapiro
Ind. Univ., 1981
1,605 pp. $37.50

Song Jiang, desperado chief of a gang of thousands, led only one of many rebellions in Chinese history, but the exploits of this 12th-century oriental Robin Hood became the favorite subject of medieval legendry. Song's subordinate chiefs acquired colorful sobriquets (e.g., Iron Ox), carried distinctive weapons, and boasted special skills (control over clouds). Crude and bloodthirsty, they were also generous to a fault. Their goal: to right the wrongs of oppressors "in Heaven's behalf." Faced by this daunting assemblage, the Emperor finally had but one recourse: to grant amnesty and employ the gang in his service. In the 14th century, two gifted writers, Shi Nai'an and Luo Guanzhong, crafted *Outlaws* out of the Song legends. From this popular classic, Mao Zedong gleaned tips on guerrilla warfare—though he denounced Song as a capitulator. Pearl Buck's *All Men Are Brothers* brought parts of *Outlaws* to the West. But Shapiro's effort represents a threefold improvement: His knowledge of Chinese makes this version more accurate, his straightforward English proves more graceful than Buck's Sinicized patois, and his reliance on earlier editions of the original produces a more comprehensive text. With its clash of blades and touch of fantasy, *Outlaws* is at least as engrossing as Tolkien's *Lord of the Rings*. A saga of medieval derring-do, it has the advantage of being the genuine article.

—Cyril Birch ('81)

THE MAPPING OF AMERICA
by Seymour I. Schwartz and Ralph Ehrenberg
Abrams, 1980
363 pp. $60



The Sinclair Hamilton Collection of American Illustrated Books. Princeton University Library.

Through maps, and maps alone, the vast geographical expanses of North America have acquired the shapes—sometimes erroneous—by which they have been known. America, once little more than a figment of the European imagination, loomed, at the dawn of the Age of Discovery, as a novel "fourth part" of the Earth—outside the traditional three-part *orbis* (Europe, Africa, Asia). Thus illegitimate, it proved highly malleable. Regarding it as an obstacle to Cathay, European map makers narrowed the New World or spilled bodies of water across it. Others filled its expanse with conjectural El Dorados. This generously illustrated volume presents a comprehensive history of the topographic renderings of America up through the Space Age. Indigenous map making antedated the Revolution but was strongly encouraged by the new American government's efforts to survey what it had won—efforts spurred on by the desire to find a waterway to the Pacific. By the mid-19th century, improved surveying and new methods for mass-producing maps eliminated the most egregious geographical misconceptions. They also reduced the human, expressive quality of maps. One exception, the panoramic, bird's-eye-view map, developed after the Civil War, proved to be an evocative document, providing people with a vivid sense of where they lived. Now, however, computer-generated satellite maps threaten to make these documents obsolete.

—Alan K. Henrikson ('79)

DIPLOMACY OF POWER: Soviet Armed Forces as a Political Instrument
by Stephen S. Kaplan
Brookings, 1981, 733 pp.
$29.95 cloth, $14.95 paper

Neither Lenin nor his successors appear to have forgotten Carl von Clausewitz's classic definition of military force and war: the continuation of politics by other means. Given the many applications of this principle in modern times, there has been relatively little serious analysis of U.S. and Soviet uses of force to achieve political ends. Kaplan, who, with Barry Blechman, examined the U.S. record in *Force Without War* (1978), now considers the Soviet example. The resulting work —including eight case studies by contribut-

ing scholars—presents a balanced view, neither alarmist nor complacent about Soviet intentions and practices. All told, there were more than 190 Soviet military actions between 1944 and 1979 (e.g., Hungary in 1956, Czechoslovakia in 1968, West African waters in 1969 and 1970). Kaplan concludes that a steady erosion, relatively speaking, of U.S. military power (and the will to use it) will only encourage Soviet boldness. Moscow grows more willing to take risks as it perceives the advantage shifting its way, and token U.S. gestures, such as dispatching task forces to trouble spots, will be perceived by the Soviets as bluffs—increasingly likely to be called.

—Anthony H. Cordesman

CHINA'S SOCIALIST ECONOMY
by Xue Muqiao
Foreign Languages Press, 1981, 316 pp. $8

In China, "six times more workers are needed in light industry and 11 times more in heavy industry to produce the same quantities of goods as in developed capitalist countries," laments Xue, perhaps China's most prominent economic theorist. In the most comprehensive insider's interpretation of the PRC economy available in English, Xue analyzes both how the system works and the ideas that have shaped China's present goals—the Four Modernizations. Although the communists have been relatively successful at development since they took power in 1949, China has not achieved what it should, he argues. Xue cites two culprits—the over-centralized Stalinist economic model adopted during the 1950s and Mao's disruptive politics of mass-mobilization. Mao is now gone, and the new leadership, under Deng Xiaoping, has written his official epitaph (a 35,000-word evaluation published last July) in an attempt to chart a new political direction. Xue focuses on reforming the Stalinist command-economy system. His solution: direct material incentives for workers and peasants, some decentralization of decision-making, and use of economic rather than administrative prods to the economy (e.g., pricing rather than output quotas); in short, "market socialism."

—Peter Van Ness ('74)

NEW TITLES

History

SLAVE SOLDIERS AND ISLAM: The Genesis of a Military System
by Daniel Pipes
Yale, 1981
246 pp. $25

From religious ideals sometimes flow unexpected consequences. One product of Islam, asserts Pipes, a University of Chicago historian, was a unique system of military slavery. Both outside Islam and in the pre-Islamic Middle East, slave warriors were used only occasionally and haphazardly. But between the ninth and 19th centuries, 80 percent of all Muslim dynasties relied heavily on them. Posing two questions—why did military slavery occur only in the Islamic world, and why did it work?—Pipes finds the answers in the teachings of Islam. Muslims subscribed to the ideal of a community of believers united under one leader and waging war only against infidels; the reality was frequent conflict among coreligionists. Still, so many Muslims cleaved to the "pious fiction" of their faith that warring Muslim rulers were forced to look elsewhere for manpower. Children from beyond their borders (e.g., black Africa) were purchased, converted, and trained for combat. Guaranteed dignity by the Koran, which describes slaves as inferior on Earth but equal before God, these soldiers enjoyed remarkably high status. Koranic inheritance laws that diffused wealth helped clear their path to positions of authority and power. Though deeply loyal to their first owners, slave soldiers often overthrew their masters' successors. In all, more than 50 became rulers —emirs and sultans—in the Islamic world.

DONOVAN AND THE CIA: A History of the Establishment of the Central Intelligence Agency
by Thomas F. Troy
CIA, 1981
589 pp. gratis

The Central Intelligence Agency has just declassified—by deleting only six typewritten pages of material—the official history of its genesis. Despite its title, the volume deals less with William J. ("Wild Bill") Donovan, a successful lawyer who became the first intelligence chief, than with the interdepartmental rivalries surrounding the creation of the

agency. When a Budget Bureau order established the Coordinator of Information in early 1941, the question immediately arose: To whom should the coordinator report? During World War II, Army intelligence (G-2) resented the semi-autonomy of Donovan's new Office of Strategic Services (OSS) and was jealous of its direct access to the Joint Chiefs of Staff and the President. FBI chief J. Edgar Hoover urged that OSS responsibilities be handed over to his agency after the war. And, in fact, the OSS was abolished in 1945 by Truman. Then, almost immediately, the State Department set up its own intelligence office, and the bickering resumed. Ensuing rounds of political wrangling were brought to an end in 1947, when Truman signed the National Security Act. With this legislation, writes Troy, a "company" man himself, the country "officially, albeit tacitly, authorized the conduct of peacetime espionage and counterespionage." It also created an independent intelligence agency—the CIA—that would report directly to the President but not encroach upon intelligence activities of other departments.

EISENHOWER'S LIEUTENANTS: The Campaigns of France and Germany, 1944–1945
by Russell F. Weigley
Ind. Univ., 1981
800 pp. $22.50

Against the Nazis, the U.S. Army failed to combine effectively what had served it well in previous wars: mobility and concentration of force. In mid-1944, the German Army, bled by the Soviet onslaught in the East, found itself increasingly short of petroleum, munitions, and air support. Yet it would take the Allies almost a year to clinch victory. Why? In Weigley's view, Eisenhower and his chief lieutenants (Generals Omar Bradley, Lesley McNair, George Patton, et al.) lacked a clear conception of war. From D-Day until victory in May 1945, U.S. strategy (which dominated Allied efforts) aimed at overwhelming the war-weary *Wehrmacht* across a broad front—with forces more appropriate for mobile operations. Time was lost, men and lives were squandered, and the Soviet area of domination inched westward. Weigley, a Temple University historian, praises a few innovative

tacticians in the Allied leadership, including General Carl Spaatz, whose close air support of the Normandy invasion and the subsequent "break-out" departed from the conventional deployment of bombers against strategic targets. The author concludes that the United States must choose its lessons from World War II carefully. The Allies won because their enormous material advantage compensated for uninspired tactics. Today's world balance affords us no such cushion.

FRONTIERS OF CHANGE: Early Industrialism in America
by Thomas C. Cochran
Oxford, 1981
179 pp. $15

In this mildly chauvinistic but highly readable account of industry in early America, Cochran, a professor emeritus of business and economic history at the University of Pennsylvania, shows how culture and geography distinguished the industrial revolution here from its counterparts in Europe. Less constrained by tradition and social hierarchy, Americans proved to be extremely flexible workers (unlike European artisans, who tended to specialize), as well as resourceful entrepreneurs. In Europe, national banks were the norm; in America, regional credit facilities—state banks, urban money markets—attuned to community needs, underwrote the creation of new industries. Laws governing bankruptcy, incorporation, and shareholding were drafted and interpreted by men who usually knew first-hand the hazards of a new enterprise. Advances in steam power and metallurgy were more important to industrialization in Europe than in the New World, where water power was abundant and the wood supply was seemingly limitless. The one resource lacking on the early American scene was manpower. Responding creatively were inventors such as Oliver Evans, whose Delaware flour mill, built in the 1780s, was the first completely mechanized factory. U.S. products often appeared crude by European standards. But Americans' penchant for the "practical or useful" had brought such results that, by the mid-19th century, Britain was sending investigators to study the young nation's successful ways.

Contemporary Affairs

SOUTH AFRICA: Time Running Out
The Report of the Study Commission on U.S. Policy Toward Southern Africa.
Univ. of Calif., 1981
517 pp. $8.95

Financed by the Rockefeller Foundation, this report dispels any doubts about the arbitrary limits upon civil liberties, the dislocating and contradictory effects of "homeland" policies, and the suffering of the black majority in South Africa. Most compelling are 19 vignettes by individual South Africans (blacks, coloreds, Indians, and whites) that vividly convey the enormous human variety and vitality that exist in this multiracial republic. The commission argues for a keener awareness among U.S. businessmen of their potential influence: Fewer than half of the American companies in South Africa now adhere to the "Sullivan Principles" on the fair treatment of black employees. Rejecting proposals for U.S. boycotts and disinvestment, the commission calls on the United States to adjust its military, economic, and diplomatic relations according to Pretoria's willingness to share political power among all its people. The United States should offer educational assistance to South African blacks, increase economic aid to South Africa's neighbors, and decrease its dependence on South Africa's strategic metals by stockpiling. There is still time to create a "new political system in which all races share political power," the commission believes. But against this scenario, it balances another: "intransigence by the government, leading to major violence."

HOW COURTS GOVERN AMERICA
by Richard Neely
Yale, 1981
233 pp. $15

The judiciary is the central institution in the American political process, according to Neely, chief justice of West Virginia's Supreme Court of Appeals. But court intervention in such political controversies as abortion, criminal law reform, and voter redistricting is in no way usurpatory, he argues. Nor are courts taking up duties neglected by the other branches of government. Rather, the judiciary, as the most nondemocratic of

political institutions, is uniquely qualified to correct social and political imbalances, whether they stem from the excessive influence of a party machine, the reluctance of a legislature to touch a volatile issue, or the illegitimate demands of a majority. Claiming that it is "no more theoretical than plumbing," Neely insists that "constitutional law is *only* about correcting flaws in the other branches; it is basically about balance." Acknowledging a debt to Yale law professor Michael Reisman, Neily maintains that all governments exist on two levels—mythical and operational. When the discrepancy becomes too great, it is incumbent upon the judiciary to act but never to acknowledge its mediating role in the political process.

CONSERVATIVES IN AN AGE OF CHANGE: The Nixon and Ford Administrations
by A. James Reichley
Brookings, 1981, 482 pp.
$29.95 cloth, $13.95 paper

The term "conservative" entered the American political lexicon with the first platform of the National Republican Party in 1832. Over the next century, conservatism in America acquired such tenets as free enterprise, decentralization of government, nationalism, and moral traditionalism. Looking at day-to-day policymaking in the Nixon and Ford administrations, Reichley, a Senior Fellow at Brookings, shows how each President's background, interests, and tactical sense determined how firmly he adhered to the conservative ideology he espoused. An advocate of "conservative internationalism" (itself a deviation from orthodoxy), Nixon pursued détente with the Soviets, while opening relations with mainland China to widen the gap between the two communist powers. Ford proved the more consistent conservative. Pushed to the right by Ronald Reagan's 1976 challenge for Republican leadership, he abandoned Salt II. He also declined to increase federal spending to stimulate prosperity in an election year—unlike Nixon in 1972. Nevertheless, he spurned Reagan's 1975 proposal for a $90 billion cut in social welfare. The strength of Reichley's book lies in his scrutiny of the chronic tensions between ideology and reality in politics.

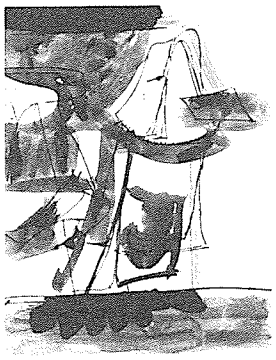
THE WOUNDED GENERATION:
America after Vietnam
edited by A. D. Horne
Prentice-Hall, 1981, 266 pp.
$12.95 cloth, $5.95 paper

More than two million Americans, two-thirds of them volunteers, served in Indochina between 1964 and 1973; of these men, 51,000 died and 270,000 were wounded. During the same unpopular war, some 16 million American youths never served at all, including 570,000 apparent draft evaders. Thus, a wide gap in experience now exists between those of the Vietnam generation who served and those, notably the sons of the privileged, who managed to avoid service. The bitter legacy emerges clearly in this useful anthology of essays, memoirs, and excerpts from novels by veterans. Most illuminating is the transcript of a 1980 *Washington Post* symposium where former antiwar activists (e.g., journalist James Fallows) argue with veterans-turned-writers, such as James Webb and Philip Caputo. A partial reconciliation takes place. And ex-GI John Wheeler, now a lawyer, predicts that a cohort of strong leaders will emerge from the Vietnam ordeal: "A lot of men were chewed up by the war. . . . Some were killed, but if the heat in the oven is higher, then the steel that comes out has got to be better."

Arts & Letters

ARSHILE GORKY:
The Implications of Symbols
by Harry Rand
Allanheld, 1981
246 pp. $40

The modernist movement in American art, particularly the abstract expressionism of the New York School, has long been perceived (and often dismissed) as a retreat from representation and accessible meaning. The work of the influential Armenian-born émigré artist, Arshile Gorky (1904–48) suggests another possible interpretation. Examining the career of Gorky (born Vosdanik Adoin), Rand, curator at the National Museum of American Art, throws new light on the larger art movement of the 1930s, '40s, and early '50s. A survivor of the Turkish massacres in his homeland, a poseur who created an identity (complete with new name) to deal with the land he adopted in 1920, Gorky made of his experiences a new, distinctive, American art. His early career in New York, in the company of Willem de Kooning and others, was largely devoted to imita-



Courtesy Allan Stone Gallery, New York City.

tion and assimilation of his chosen masters, including Cézanne, Picasso, and Vermeer. But even as a young man, he began to develop a private iconography comprised of people (particularly his mother), places (his native Armenia), and common objects (often furniture). These images he obsessively worked and reduced to essential, almost coded shapes. Fearful of loss, Gorky (who taught camouflage during World War II) disguised his beloved objects and people to preserve them from change, violence, destruction—forces that ultimately drove the cancer-ridden painter to hang himself. Rand gives us a reading of Gorky's "visual diary"; he also makes us look for hints of figuration in painting we once too quickly labeled abstract.

DREAM FLIGHTS
by Dave Smith
Univ. of Ill., 1981, 76 pp.
$10 cloth, $4.95 paper

Rooted in family life and in the landscape of Virginia, these poems by one of America's best young poets have both the disturbing quality of dreams and the power of flight. Some are airborne meditations—one composed en route from Honolulu to Salt Lake City (where Smith taught before moving to the University of Florida), another between Utah and his native Virginia. In all of the poems, dreams are memories from the "deep-hidden meat" of the brain, and journeys are temporal, as when, once a year, the poet goes through the family photograph album (*the images . . . gather themselves into the history of our kind*). Moving between eloquence and colloquialisms, between simple truth and grand metaphysics, Smith evokes scenes from his childhood. Some are ugly with seedy Southern gentility or redneck racisim. But others communicate an attractive sense of place. Explaining how crabs are caught to his six-year-old daughter, he gives her a story that will be *remembered right./Loved.* He recalls a red woodpecker, shot at and missed: *its odd knowledge, the way/it flared with lazy yellow wings into the dark that spread in my body.* Smith uses words the way his wife cleans a fish: *Her knife flies as lethal as love.* And the reader feels the power of his voice that at poem's end lingers hauntingly.

MATTHEW ARNOLD: A Life
by Park Honan
McGraw-Hill, 1981
496 pp. $19.95

Matthew Arnold (1822–88) grew up under the long shadow of his father, the liberal but demanding headmaster of England's famous Rugby School. Dr. Arnold died while Matt was still an indolent student at Oxford, but the poet who wrote "Dover Beach" and the critic who penned *Culture and Anarchy* never forgot his father's strong sense of duty. In this excellent biography, Honan, a reader in English at Birmingham University, shows that this stern moral legacy probably damaged Matthew's career as a poet. Not only did it compel him to leave an easy sinecure for the socially responsible position of school inspector, a grueling and ultimately frustrating job; it also eventually led to moralizing in his verse. The man who had first written poems to please his mother came to believe that poetry, as the essential voice of culture, must carry on the civilizing mission that was once, in the Middle Ages, the work of the Church. Burdening his verse with philosophical instruction, he gradually suppressed his best poetic instincts—though happily this did not happen until after he had produced an impressive body of work. Heavily burdened by job and family, he still managed to write, albeit more criticism than poetry. Stiff at first, his prose soon developed grace and quick flashes of insight. In essays, lectures, and books, Arnold made his eloquent argument for a broad humanist education, available to all, as the best defense against social anarchy.

Science & Technology

EMERGING COSMOLOGY
by Bernard Lovell
Columbia, 1981
208 pp. $14.95

New discoveries about the nature of the universe are often suppressed by the prevailing cosmology, until theory eventually catches up to them. Lovell, a Royal Society astronomer, recounts this process of resistance and gradual acceptance from Aristotle's time to the present. Thomas Aquinas's tempering of literal biblical views with Aristotelean science in the 13th century, for instance, was a monumental achievement, but, Lovell notes, it also helped forestall widespread accept-

ance of a sun-centered model of the universe (formulated as early as the third century B.C.) for another 300 years. Lovell attributes the eventual adoption of Copernicus's model of the solar system, in the 16th century, to its compatibility with the ancient Greeks' belief in a harmonious, concentric universe (which made his idea appear less revolutionary), as well as to Galileo's persuasive demonstrations. The same classical emphasis on harmonious heavenly relationships led Johannes Kepler, in 1609, to discover elliptic orbits; his principles of planetary motion, in turn, laid the groundwork for Isaac Newton's laws of gravity and inertia (1687). Theory and observation were unified in Newton's cosmology. In our own century, Albert Einstein exploded the concepts of absolute time and motion and forced scientists to recognize the subjective, man-centered nature of their ordering principles. As a consequence, most scientists now believe there is no absolute order of the universe to be discovered— only more useful cosmic models to be devised.

A NEW SCIENCE OF LIFE: The Hypothesis of Formative Causation
by Rupert Sheldrake
Blond & Briggs, 1981
229 pp. $12.50

Heredity, we are told, depends on the arrangement of nucleic acids on the double helical strands of DNA. But this "mechanistic" explanation of the ultimate mystery of biology has serious limits. The differences between the DNA sequences of, say, humans and chimpanzees amount to only 1.17 percent. The genetic discrepancy between two species of mice is actually greater. And why does one cell become a kidney tubule while another with the identical DNA structure becomes a brain cell? Some "mechanistic" scientists claim that such cells are simply "programmed" differently. But programming implies a programmer, an implication from which these mechanists recoil. Sheldrake, a Cambridge biochemist, sees a need for a nonmechanistic, nonphysical theory of biology to account for such phenomena as the relative constancy (both structural and behavioral) within an animal species. Reviving the *vitalism* of philosophers such as Henri Bergson and Alfred North Whitehead, who

believed that life had a special character apart from its physical aspect, he postulates an influence "across space and time unlike any known type of physical action." Once established within a species, a characteristic is *somehow* transmitted to all members of the species. Sheldrake does not explain why or precisely how an organism takes the form it does. But, as more and more scientists have been pointing out, "traditional" biology has not provided a satisfactory theory either. Sheldrake's book challenges biologists to look at assumptions too long taken for granted.

THE MICROELECTRONICS REVOLUTION: The Complete Guide to the New Technology and Its Impact on Society
edited by Tom Forester
MIT, 1981, 589 pp.
$25 cloth, $12.50 paper

Behind the most recent industrial revolution is the tiny silicon-chip integrated circuit of the new miniaturized computers. Barely 20 years old, it far surpasses the transistor in complexity and speed of computation. Though the United States leads in the microelectronics field, Forester, a former correspondent for *New Society*, believes that most Americans are ignorant of what the industry has wrought and what its growth portends. Proceeding from this premise, 43 scientists, philosophers, and other contributors discuss the computer's pervasive influence in areas ranging from military weaponry to town planning. Designs or prototypes exist for fully automated factories, domestic robots, synthetic neural tissue—even robotic medical consultants and legal arbiters. Among the potential effects debated here are automation-induced unemployment and, with the increasing interconnection of data banks, invasion of privacy. Will the growing dependence on artificial intelligence subtly reduce the power and scope of human mental processes? Even such an optimist as Herbert Simon, professor of computer science at Carnegie-Mellon, views the future warily: The very "capability of the computer for solving problems and making decisions . . . poses the greatest difficulty in predicting its impact upon society."

PAPERBOUNDS

ARABIAN SANDS. By Wilfred Thesiger. Penguin, 1981. 347 pp. $3.95

In southern Saudi Arabia sprawls a desert within a desert, nearly a half-million square miles of such desolation and emptiness that even Arabs dismiss it, calling it the Empty Quarter. There, for five years in the 1950s, lingered the English traveler and author Thesiger, in the company of a few Bedouins, living the merciless code T. E. Lawrence earlier called "a death in life." Filled with danger and every form of discomfort, these were the happiest years of Thesiger's life. The book that he was finally persuaded to write about this time is a masterpiece, recording a way of life that otherwise would have passed away unnoticed. Human life in the Empty Quarter was tested in the extreme—seared by an inhuman heat and stripped of all supports except camels, rags, and maybe a cooking pot. Out of this hardship, the Bedouin minted generosity, good humor, courage, and loyalty. Thesiger predicted that future authors would one day write more interesting books on Arabia. But none shall know what he knew: the feel of the land and the spirit of the Bedouin who inhabited it.

THE BOOK OF LAUGHTER AND FORGETTING. By Milan Kundera. Penguin, 1981. 228 pp. $4.95

In 1968, novelist Kundera became a "nonperson" in his native Czechoslovakia. Only 20 years before, he had been a bright-eyed believer in the world promised by Karl Marx. Something happened on the way to Prague Spring: Kundera, like the Protean narrator of his novel, broke from the circle of true believers. His reasons, which provide the thematic center of the novel, are bound not simply to local politics but to the fundamental question behind any political vision: the nature of man. Out of his experience, Kundera conceives a fictional world peopled by two necessary, antagonistic types. On one hand are the angels, idealists who always forget; on the other are the demons, who, unable to forget, must always laugh. Superficially a series of unrelated tales—some surreal, some autobiographical, some historical (a Czech politician, for instance, disappears from an official photograph, leaving a tell-tale trace)—the book slowly divulges its subtle unities of theme and voice. Kundera mocks both angels and demons, though it is clearly with the latter that he casts his lot. But his final point is deadly serious: Angels, who persist despite all experience in their notions of perfectability, can be dangerous—at least if their holy zeal goes unchecked by unholy laughter.

ARNOLD SCHOENBERG. By Charles Rosen. Princeton, 1981. 113 pp. $4.95

For the death of "pretty music," Schoenberg (1874–1951) deserves much of the credit or blame—depending on one's ear. Controversy surrounded the life and career of the Austrian Jew who fled to the United States in 1936. Rosen, a professor of music at the State University of New York, Stony Brook, notes the hostile reception that conservative Viennese audiences gave to what they considered Schoenberg's violation of the "natural laws of music." Whether or not tonality is "natural," it had long provided a means of distinguishing musical sense from nonsense. Rosen argues that the "breakdown in tonality" is a fiction. What Schoenberg

actually banished was the possibility of using large "blocks of prefabricated material in music." Schoenberg insisted that music be written note by note. Between 1908 and 1913, in works such as *Evartung*, the composer renounced both the tonal frame and the thematic form. The point of rest and resolution lay no longer in the sounding of the tonic chord but rather in filling out chromatic space by sounding all twelve tones in the chromatic order determined by the composer. Rosen suggests similarities between the composer's art and work by contemporaries in other media: Experiments by Matisse and the French Fauvists with "pure" colors strikingly parallel Schoenberg's efforts. He also provides a lucid, accessible explanation of Schoenberg's aesthetic and achievement, both of which have figured prominently in 20th-century music.

BANDITS. By Eric Hobsbawm. Pantheon, 1981. 181 pp. $4.95

That Hobsbawm, the noted London University historian, should have devoted a book to bandits is neither whimsical nor surprising. Considered with his earlier books, such as *The Age of Revolution* (1962), it reveals an abiding preoccupation with seekers after justice and freedom. Here, Hobsbawm surveys ballads, legends, and historical records of outlaws who fought to relieve oppression and exploitation, from Shanghai to Sicily. He discerns three persistent types: "noble robbers" such as Jesse James and Robin Hood; "avengers" such as the 19th- and 20th-century Brazilian *cangaçeiro* (morally ambiguous because of their violence and cruelty); and *haiduks* such as the 17th- and 18th-century Zaphorzhe Cossacks, who, with their political and organizational sophistication, were prototypes of modern guerrilla resistance and liberation movements. Bandits may lead larger revolutions, but the unsuitability of "social banditry" for more than small group operations constitutes its "tragedy." Yet bandits remain more important to their people than do the Bismarcks and Napoleons. Real or imaginary, these avengers "noble as falcons, cunning as foxes" reflect the eternal longing for justice.

GRAMSCI: An Alternative Communism? By Luciano Pellicani. Hoover, 1981. 136 pp. $8.95

When the Italian Communists split from the Socialists in 1921, Antonio Gramsci (1891–1937) became a leader of the fledgling PCI. In 1926, he began nearly a decade of imprisonment, during which he wrote his massive *Prison Notebooks*. Emphasizing gradualism and accommodation with liberal political parties, *Notebooks* supplied the ideological foundation for Italian communism and also, later, for the larger "Eurocommunist" movement. Rejecting Lenin's notion of the forceful revolutionary cadre, Gramsci proposed instead to educate the working class. Once aware of how bourgeois culture obscures economic injustice, workers, he believed, would seek, through primarily democratic means, their own class interests. The danger of Gramscian Marxism, argues Pellicani, professor of political sociology at the University of Naples and theorist for the Italian Socialist Party, is that it depends on a "priestly" class of leaders whose blueprints for the ideal state remain drearily totalitarian. Pelicani locates Gramsci's error in the fundamental difference between communism and socialism: The former seeks a perfect state; the latter, only a better one.

Charles Darwin and the "Beagle"

"If I live till I am 80 years old," Charles Darwin wrote after finishing his first book, "I shall not cease to marvel at finding myself an author." That book was *The Voyage of the Beagle* (1837), in which Darwin recorded his experiences and observations as a naturalist on the *Beagle*'s globe-circling journey, begun 150 years ago. From this trip came much of the raw material and inspiration for Darwin's great work, *On the Origin of Species* (1859), in which he first propounded his revolutionary theory of evolution. Scholars and laymen still debate Darwin's ideas, particularly his notion of "natural selection." Here, historian-philosopher Michael Ruse traces the story of Darwin, his critics, and his ideas, beginning with the *Beagle*.

by Michael Ruse

On the cold morning of December 27th, 1831, H.M.S. *Beagle*, a 10-gun brig commanded by Captain Robert Fitzroy, weighed anchor in Devonport harbor and put to sea. She was bound for South America and the Pacific Ocean, on a five-year, round-the-world voyage to chart and measure ocean depths. Below deck, swinging miserably in his hammock, Charles Darwin was violently seasick.

Captain Fitzroy had invited Darwin to join the *Beagle* in order to have on board a gentleman companion. What he did not realize was that this young man of 22 would be stimulated by the voyage into producing one of the great intellectual achievements of all time.

Spurred by what he saw and learned, Darwin would deny that the living world was the miraculous creation of an All-Wise Being. Instead, he would declare that animals and plants alike were the end product of a long, slow, "evolutionary" process.

And, in 1859, in *On the Origin of Species*, Darwin would suggest a mechanism for this process: natural selection through the struggle for existence. Not all organisms that are born can survive and reproduce; success is in part a function of distinctive features (whiter coat, greater speed, stronger sex drive), and thus there is a constant winnowing or "selecting."

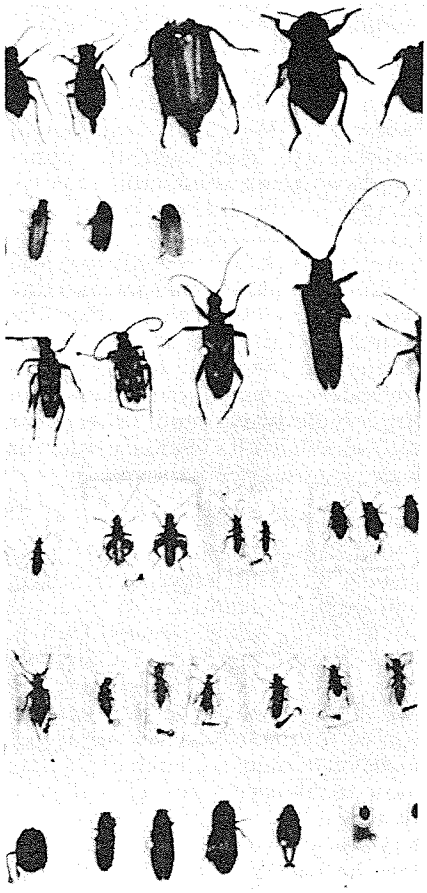
A less-likely candidate to sit at the high table of science, with Copernicus, Galileo, and Newton, would have been hard to imagine. Young Darwin had been born to a life of luxury (his maternal grandfather was Josiah Wedgwood, manufacturer of Wedgwood china), and he had shown all the marks of a young man from whom life expected very little. He had idled through school, had dropped out of the medical program at Edinburgh University, and had just finished a very comfortable three years at Cambridge University.

To get his degree, he had dabbled in the classics and mathematics, but not much more. Darwin later wrote, "During the three years which I spent at Cambridge my time was wasted, as far as the academical studies were concerned, as completely as at Edinburgh and at school." At Cambridge, he intended to become an Anglican parson—a perfect niche in life for the man with financial ease and little ambition.

It seemed an inauspicious beginning for one of our greatest scientists. Darwin appeared to have little training, preparation, or ambition for a life of science. Indeed, he did not have a degree in science. Yet it is clear that Darwin's achievement was not a matter of blind luck.

Around the time that Darwin was at Cambridge, 1828–31, there was no natural science in the curriculum of English universities, although there were a number of professorships in science. No knowledge of the relevant science was demanded for these posts.

In 1818, Adam Sedgwick (1785–1873) had been elected professor of geology, even though he hardly knew what a rock looked like. He campaigned under the slogan that "hitherto he had turned no stone, but if elected he would leave no stone unturned." He attributed his smashing victory to the fact that although he himself knew no geology, his opponent knew a lot that was all wrong.



Down House and The Royal College of Surgeons of England.

Part of Darwin's large specimen collection from the Beagle *voyage.*

Sedgwick kept his campaign promise, becoming a leading European field geologist. Nor was Sedgwick one of a kind. John Stevens Henslow (1796–1861), professor of

botany, was rescuing the herbarium from decades of neglect and plunging into his studies.

Similarly, the energetic William Whewell (1794–1866), professor of mineralogy, was writing monographs on gems, conducting massive surveys of the tides, writing textbooks on mechanics, preparing seminal works on the history and philosophy of science, formalizing economics, analyzing German church architecture, and generally setting everyone right on every matter under the sun. (Sydney Smith, an English clergyman and writer, once said of Whewell, "Science was his forte; omniscience his foible.")

Learning the Trade

These men used to meet weekly to discuss scientific issues, and Darwin was quickly accepted into the little circle. In his *Autobiography*, Darwin wrote, "Looking back, I infer that there must have been something in me a little superior to the common run of youths, otherwise the above-mentioned men, so much older than me and higher in academical position, would never have allowed me to associate with them." All the time that he was at Cambridge, Darwin received what amounted to personal tutoring from some of the best scientific minds in Britain.

Darwin was far from being a fully qualified scientist, even by the standards of the day, when he left Cambridge. But he had started to learn the trades—geology and biology—and, most importantly, he had set his sights on a life of science. "My love of natural science has been steady and ardent," he later wrote. "This pure love has, however, been much aided by the ambition to be esteemed by my fellow naturalists."

A Secret Heretic

To be a cleric, as Darwin planned, was not inconsistent with pursuing a scientific career. Most of the faculty at Oxford and Cambridge were ordained, including Sedgwick, Henslow, and Whewell. Indeed, taking orders in the Anglican faith was required for many university posts. Darwin might have traced the path down which many had gone before: a comfortable living, a curate to do the hard work, and ample leisure to devote to hard-nosed science.

The invitation to travel on the *Beagle* voyage came to Darwin through the scientists' old-boy network. He jumped at the chance, seeing it as a way to broaden his horizons and to make complete collections of minerals, plants, and animals that would be useful to scientists back in England. At first, his father was reluctant to let him go. But he finally gave his consent, thinking that the voyage would steady his son's character.

The voyage was supposed to have lasted only two years, but it took five. Fitzroy spent three exhausting years charting the Atlantic and Pacific waters around South America alone before proceeding to the Polynesian islands, New Zealand, and Australia, and then around the Cape of Good Hope at the tip of Africa.

I like to think of the time Darwin spent on the *Beagle* as equivalent to a

Michael Ruse, 41, is professor of history and philosophy at the University of Guelph in Canada. He received a B.A. from the University of Bristol (1962), an M.A. from McMaster University (1964), and a Ph.D. from Bristol (1970). His books include The Philosophy of Biology *(1973),* The Darwinian Revolution *(1979), and* Sociobiology: Sense or Nonsense? *(1979).*

Darwin in 1840, a year after his marriage. As a bachelor, he drew up a balance sheet, listing matrimony's merits and demerits. He concluded that he did not want to live the rest of his life "like a neuter bee."

stint in graduate school. (But Darwin's first book, the *Voyage of the Beagle,* is far too enjoyable and too well written to masquerade as a Ph.D. thesis!)

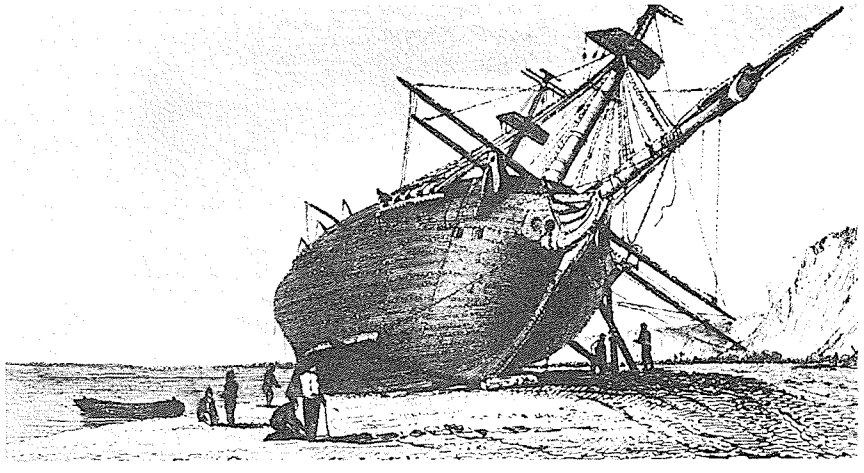
At this time, the hottest topic in Darwin's circle at Cambridge was the nature and history of the Earth. The orthodox position, strongly promoted by Sedgwick, was called "catastrophism." He argued that there are periodic, monstrous upheavals, on the scale of Noah's flood, following which God miraculously creates a whole new set of organisms. This explained why the fossil record (then very sketchy) seemed to show a progression from primitive to advanced forms of life.

Against this view of earth history, Charles Lyell (1797–1875), a lawyer by training, had argued in his *Principles of Geology*, published in three volumes after 1830, for what others called the "uniformitarian" position. Lyell saw the Earth in an ongoing steady-state, quoting the 18th-century Scottish geologist James Hutton that there was "no trace of a beginning, no prospect of an end." Rain, wind, snow, frost, erosion, earthquakes, sedimentation, and volcanoes produced all change on the face of the globe.

Organisms also fit the steady-state pattern. Somehow, they were created naturally, as Lyell saw it, on a continual basis: They flourished for a while, and then, like the late-lamented dodo bird, they became extinct. Lyell believed there was no genuine progressive development revealed in the fossil record.

But most important, Lyell argued that, given the universal unending struggle for existence, organisms would be driven to extinction before they would have time to change.

Evolution was not a new idea. Indeed, Charles's grandfather, Erasmus Darwin (1731–1802), a physician, had put forth a theory of



Courtesy Robert Harding Picture Collection, London.

Captain Fitzroy beached the Beagle *for repairs on Argentina's coast early in 1834. Later, Darwin would spend eight years engrossed in a study of barnacles.*

evolution in his 1794 book, *Zoonomia*. The French naturalist Jean Lamarck (1744–1829) had also argued for evolution. But Lamarck, like other evolutionists, did not have a credible explanation of how such a process might work. The French scientist argued that animals advanced by taking on new characteristics almost by force of will. (Darwin read Lamarck aboard the *Beagle* and remarked, "His theories delighted me more than any novel I ever read.")

Oddly enough, it is in Lyellian "uniformitarianism" that we find the clue to Darwin's becoming an evolutionist. All during the time he was carefully collecting plant and animal specimens and storing them aboard the *Beagle*, Darwin had in the back of his mind the nagging problem faced by any Lyellian. If new organisms are produced naturally, then how does this occur? If not evolution, then what?

The crucial experience that was to tip Darwin into evolutionism was the *Beagle*'s visit (in 1835) to the Galápagos Islands, stinking hot, inhospitable pieces of volcanic rock right on the equator, off the coast of Ecuador in the Pacific. There, the chief land animals are lumbering great tortoises, and many of the birds are drab-looking members of the finch family. After the *Beagle* had visited several of the islands, Darwin realized that, from one island to another, the tortoises and finches were different.

He mulled over this problem all the way back to England.

Was it necessary to think the unthinkable?

Had all the finches of the Galápagos come from one or a few founding ancestors, which had then evolved to different forms on different islands?

When an expert confirmed that the finches were of different species soon

after Darwin's return, Darwin concluded, almost reluctantly, that this had to be so. He crossed the divide and became an evolutionist.

More accurately, he became a *secret* evolutionist. On his arrival in England, Darwin was greeted with open arms by his scientific colleagues, proud of the rising new star they had produced. (A large part of Darwin's collections and notes, and many letters, had been sent back to England during the voyage.) He was urged to play an active role in scientific societies, treated as an equal by his old professors, and helped in many ways with his *Beagle* collections and his writings. Darwin loved every minute of it, and he had no intention of ruining things by announcing his conversion to evolutionism, a doctrine that his old circle regarded with horror.

Publicly orthodox, privately heret-

A DARWIN READER

The Charles Darwin who set off on the *Beagle* in 1831 was not quite the same man who returned five years later. Alan Moorehead writes in his lavishly illustrated **Darwin and the Beagle** (1969) that the young scientist spent 40 days of "wonderful exuberance" roaming the Argentine pampas with a group of Gauchos. Darwin wrote in his **Autobiography** (1892), however, that he developed his meticulous scientific habits while on board the *Beagle*. Not long after his return, a mysterious illness ended Darwin's carefree days. As historian Gertrude Himmelfarb observes in her masterful biography, **Darwin and the Darwinian Revolution** (1959), "suffering was the motif of Darwin's life, as surely as science was its motive." Another biography is Gavin DeBeer's **Charles Darwin** (1964). The controversy that greeted **On the Origin of Species** in 1859 is recounted in **Apes, Angels, and Victorians** (1955) by William Irvine. Darwin himself played only a minor role in the debate. "Metaphysical ideas made him uncomfortable," writes Irvine, "and unpleasant metaphysical ideas made him ill." David Hull's **Darwin and His Critics** (1973) contains a fascinating selection of reviews of the *Origin*, revealing that contemporary thinkers rejected natural selection even as they embraced evolution. Indeed, natural selection remained out of favor until Theodosius Dobzhansky applied the lessons of Gregor Mendel's studies in genetics to Darwin's theories, in **Genetics and the Origin of Species** (1937). More recently, E. O. Wilson has extended natural selection to human behavior, notably in **On Human Nature** (1978). Others continue to question the theory. Paleobiologist Steven M. Stanley argues in **The New Evolutionary Timetable** (1981) that man did not evolve gradually, as natural selection requires, but appeared suddenly between 40,000 and 100,000 years ago. Stephen Jay Gould, a Marxist, puts forth a similar "punctuational" view in **The Panda's Thumb** (1980), but concedes in **Ever Since Darwin** (1977) that "we'll have Charles Darwin to kick around for some time."

ical, Darwin worked hard on his evolutionary theory. The problem was to find a causal mechanism.

Darwin found his answer in the barnyard and pigeon coop. Farmers and animal fanciers breed from the best of their stock, creating new, desirable forms through artificial selection. Darwin saw that one might have a *natural* selection, creating new forms among wild animals.

But what would power such a process? At the end of September 1838, two years after his return, Darwin read Robert Malthus's *An Essay on a Principle of Population*, in which Malthus argued that population, expanding geometrically, would inevitably outstrip food supplies, causing a destructive struggle for existence. Darwin turned Malthus upside-down, using the struggle as the power behind evolution through natural selection.

Settling Down

"One may say there is a force like a hundred thousand wedges trying [to] force every kind of adapted structure into the gaps in the economy of nature, or rather forming gaps by thrusting out weaker ones," he wrote in his notebook.

Darwin was settling down even as his career was taking off. In 1839, he married his cousin, Emma Wedgwood. Eventually, they had 10 children, three of whom died at an early age. Three years after their marriage, the Darwins moved to an isolated house in Downe, 30 miles outside London, where they spent the rest of their lives.

By 1844, Darwin had worked out his position in detail and written it up in a fairly long manuscript. But to publish would have made him a scientific pariah. Instead, he spent eight years diligently working on a study of barnacles.

By this time, Darwin had also fallen ill with some still-unidentified debilitating malady. It plagued him for the rest of his life, limiting his working day to just a few hours.*

Thus, for 15 years, Darwin's work went unpublished, although it was stored with careful instructions for its publication should he die. Darwin was cautious, but he had no desire to be ignored by posterity.

A Reluctant Celebrity

Finally, in 1858, Darwin's hand was forced. A young English naturalist in the Far East, Alfred Russel Wallace (1823–1912), sent Darwin a copy of a short essay he had written —containing a perfect cameo of Darwin's own position. Depressed, Darwin turned to his friends for advice. They suggested that Wallace's essay be published along with extracts from Darwin's earlier writings. This was done at once, and then Darwin set about writing a fresh "abstract" of his position, which did not turn out to be much different from the original.

Toward the end of the next year, Darwin's great evolutionary tome was presented to the world. The first edition's press run was 1,250 copies, and booksellers snapped them all up on the day of publication. (*The Origin of Species* went through seven editions in Britain by 1872, selling 16,000 copies and becoming a minor best seller.)

Darwin and the *Origin* were instant celebrities. Controversy swirled around them, and it continues even

*The symptoms of Darwin's illness included nausea, headache, and insomnia. The slightest effort exhausted him, making him a semi-invalid. Yet Darwin's illness did not prevent him from publishing 20 books and monographs during his lifetime.

today. Although Darwin said virtually nothing in the *Origin* about the evolution of man, hoping to avoid an uproar, at once he became known as the "father of the monkey theory."*

Probably the most famous clash between his supporters and critics occurred in 1860, at the annual meeting at Oxford University of the British Association for the Advancement of Science. For the defense (of the biblical explanation) was the Bishop of Oxford, known because of his eloquence as "Soapy Sam" Wilberforce. Leading off for the prosecution was a brilliant young supporter of Darwin, Thomas Henry Huxley (1825–95).

Cambridge Surrenders

Wilberforce haughtily asked Huxley if he claimed descent from monkeys through his grandfather or through his grandmother. Starting a debate at that level with Huxley was not a wise move. As Huxley later recounted the incident, he replied: "Would I rather have a miserable ape for a grandfather, or a man highly endowed by nature and possessed of great means and influence, and yet who employs these faculties and that influence for the mere purpose of introducing ridicule into a grave scientific discussion—I unhesitatingly affirm my preference for the ape."

At the back of the room, adding to the melee, Darwin's old shipmate, Fitzroy (now an admiral), strode back and forth, brandishing a Bible above his head, shouting: "The Book! The Book! We must have the Book!"

Benjamin Disraeli, the future Prime Minister, pondered the question of evolution in a speech in the House of Commons and was happy to reassure his listeners of his orthodox religious convictions. And, in a similar vein, the wife of the Bishop of Worcester worried about the malign effects of Darwinism on the lower classes: "Descended from monkeys? My dear, let us hope that it is not true! But if it is true, let us hope that it does not become widely known!"

Despite all the controversy, one thing stands out very clearly. Although many lay people were reluctant to accept evolution, and although virtually everyone had trouble with natural selection, almost overnight most professional scientists became evolutionists. At staid old Cambridge, where students had once been asked to give "evidence of design" on their examination papers, the examiners began asking students in the 1860s to analyze the struggle for existence.

Stacking the Deck

Several factors worked in Darwin's favor. By 1860, the older, more prominent scientists, Darwin's teachers, were long past their prime and unable (or unwilling) to lead the opposition to his ideas. (Darwin's old mentor, Whewell, had, however, refused to allow a copy on the shelves of the Trinity College library when it was first published.) The younger generation, less tied by religion, desperately wanted a "natural" solution to the problem of organic origins. Darwin's carefully marshalled arguments and mountains of evidence seemed to reconcile all the puzzling elements: fossils, geographical distributions, homologies, and embryologic similarities between species.

Nor were Darwin's supporters beyond politicking. Huxley and many other Darwinians, particularly the

*Darwin addressed human evolution in his other great work, *The Descent of Man*, published in 1871. By then, the furor had died down. "Everybody is talking about it without being shocked," remarked a puzzled Darwin.

botanist Joseph Dalton Hooker (1817–1911), were among the most influential figures in the scientific community, constantly refereeing papers submitted for publication in scientific journals. Papers that were favorable to Darwinism got a friendly nod; those that were not, did not. Darwin himself published a few anonymous reviews of work that supported his theory.

My favorite example of the scientific politics of the day is the case of William Dawson, principal of McGill College and noted paleobotanist—the only Canadian link I have been able to find with the Darwinian revolution. Invited to give a prestigious lecture at the Royal Society in London, Dawson treated his audience to 50 dense pages on the Carboniferous era in Nova Scotia. Then, for three more pages, Dawson spoke out against evolution.

Previously, all such lectures were automatically published in the society's journal. But both of the referees were Darwinians. One remarked that "the author does not appear to be aware of the British opinions upon persistent species." In the end, Dawson had to be content with a mere two-page abstract in the society's equivalent of a newsletter.

"Higgledy-Piggledy"

Of course, what made Darwinism more than "just a theory" were the extrascientific implications. Many laymen rejected natural selection because they could not really bring themselves to believe that blind law could result in a world that seemed so well designed—or could produce something so obviously important as *Homo sapiens*. Even many of those who became evolutionists believed that God must work through special "creative" laws.

Sir John Herschel, the great astronomer, argued that we must introduce the "idea of Jumps . . . as if for instance a wolf should at some epoch of lapine history take to occasionally littering a dog or a fox among her cubs. This would allow for *mind, plan, design,* and to the . . . obvious exclusion of the haphazard view of the subject and the casual concourse of atoms." Herschel called natural selection "the law of higgledy-piggledy."

Pecking Order

But not all the extrascientific factors went against Darwinism. Many religious people, including not a few very conservative churchmen, liked the idea of evolution, even the idea of evolution through natural selection. After all, to a good Scottish Elder of the Kirk (Presbyterian Church), natural selection was but the secular expression of what he had long been preaching about God's choosing an elect!

At the other end of the spectrum, we find liberal theologians drawn to evolution and selection because they preferred the notion of a God who could work through unbroken law, rather than one who had to keep interfering miraculously in His creation. The Reverend Baden Powell (father of the founder of the Boy Scout movement) wrote in 1855:

> Precisely in proportion as a fabric manufactured by machinery affords a higher proof of intellect than one produced by hand; so a world evolved by a long train of orderly disposed physical causes is a higher proof of Supreme intelligence than one in whose structure we can trace no indications of such progressive action.

Darwin himself had been able to reconcile evolutionism with a belief in God. He was never an atheist, al-

though toward the end of his life he drifted toward agnosticism (a word coined by Huxley in 1869).

In addition to religious trends, there were social beliefs that aided Darwin. Although very few could totally accept Darwin's claims about the power of natural selection, his general position on the struggle for existence struck a responsive chord in the political and business milieu of mid-Victorian England.

"Social Darwinists" such as the philosopher Herbert Spencer argued that society and nature were alike: The rich were rich because they were better adapted to succeed in the economic "struggle for existence." The poor were poor because they were inferior—there was no helping them.

The progressive aspect of evolutionism, particularly as it was taken to apply to our own species, seemed merely to confirm what everyone in Britain knew already. At the top of the evolutionary heap, one had the English and Scots, and then one worked down through the colored races, until one reached the miserable savages at the bottom of South America, the Tierra del Fuegians (whom Darwin had visited aboard the *Beagle*). Depending on one's perspective, the Irish, then under British rule, could be placed just above or just below these wretches.

In the years after the *Origin*, newspaper cartoonists, developing their own bastardized version of Darwinism, almost invariably gave their Irish figures distinctly simian features. Englishmen (and others) now enjoyed scientific "justification" of their prejudices. Yet Darwinism, in fact, does not have such implications. All humans are the same species, in Darwin's view, and there is no evidence that one group is "higher" or "lower" than another.

Darwin died of a heart attack in

This 1861 Punch *cartoon, entitled "The Lion of the Season," satirized Darwin's new theory. It shows a tuxedo-clad ape being received into London society.*

Courtesy of Punch.

1882 in his home at Downe at the age of 73. By then, the initial furor caused by his ideas had subsided. Indeed, he was recognized by scientific friends and foes alike as one of the great figures of the age. The Victorians loved a hero, and so, against the wishes of his own family, he was accorded the ultimate accolade. His coffin was borne by two dukes, an earl, past, present, and future presidents of the Royal Society, and the American Minister. He was laid to rest in "the English Valhalla," Westminster Abbey. He lies next to his old friend Lyell, and a few feet from Sir Isaac Newton.

During the hundred years since his death, Darwin's ideas have continued to stir debate. What Darwin did not develop, and what he needed most, was an adequate theory of heredity: a science explaining how new plant and animal characteristics originate and are transmitted through the generations. In fact, even during Darwin's lifetime, the secrets of genetics were being unlocked by an obscure Moravian monk, Gregor Mendel (1822–84). But no one knew of Mendel's work, and it was not until the 20th century that his ideas were discovered and extended.

The course of science is never a straight line: The earliest Mendelians saw their theory as a *rival* to Darwinism! After decades of dispute, during the 1930s scientists realized that Darwinism and Mendelism together hold the key to a full picture of the evolutionary process. The two subjects were melded together in the "synthetic theory of evolution," or "neo-Darwinism." (Julian Huxley, grandson of "Darwin's bulldog," Thomas Huxley, helped rejuvenate Darwinism with his 1942 book, *Evolution: The Modern Synthesis.)*

During the last decade, controversy has once again exploded around Darwinism. As in the 19th century, extrascientific factors continue to spur the critics. In America, the most prominent of these are the so-called scientific Creationists. They would have us reject evolutionism entirely and return to biblical literalism. The Old Testament's account of the Creation, they argue, should be the only one taught in the schools.

Marx vs. Darwin

The Creationists focus on "missing links" in the fossil record and exclude all other evidence of evolution. Duane T. Gish's *Evolution? The Fossils Say No!* (1973) is representative.

A more serious intellectual challenge to Darwinism comes from the very opposite end of the spectrum. Again, it is natural selection that comes under attack. There are a number of very good scientists, committed evolutionists, who reject Darwinism mainly because it does not suit their Marxist ideology.

These are not crude, doctrinaire ideologues of the kind that supported Trofim Lysenko in Soviet Russia in the 1930s, but they do try to mold their science to fit their politics.*

Two of them are leading Harvard biologists, Richard Levins and Richard Lewontin. They declared in a 1976 essay, "As working scientists in the field of evolutionary genetics and ecology, we have been attempting with some success to guide our own research by a conscious application of Marxist philosophy."

The Marxists have spearheaded criticisms of the attempt by sociobiologists such as Edward O. Wilson, also of Harvard, to extend Darwin's

*Trofim Denisovich Lysenko, chief of agriculture under Stalin, rejected natural selection in favor of a kind of Lamarckism. This had disastrous consequences for Soviet crops.

ideas into the sphere of animal *behavior*, including human behavior. The Marxists see any proposals to view human beings as a product of an evolutionary past, molded by natural selection, as deeply reactionary. Instead, they argue that humans must be seen apart from the animal world, as beings who have in some sense escaped their evolutionary heritage. The old fears about Darwin's ideas threatening human uniqueness die hard. (Marx himself, more impressed by what he saw as Darwin's evidence for continual human progress, wrote that he wished to dedicate *Das Kapital* to Darwin—who politely declined the offer.)

More positively, some Marxist biologists, particularly Stephen Jay Gould (also of Harvard), have tried to provide an alternative to Darwinism. Darwin's version of natural selection implies that evolution will proceed in a smooth, gradual way. Gould's theory of "punctuated equilibria" supposes that evolution proceeds by fits and starts: There are periods of calm, and then, suddenly, organisms switch into new forms. One thus has the kind of revolutionary changes predicted by Marx.

Most important, Gould's theory implies that all humans are at the same point of evolutionary development. Any differences between individuals are the product of environmental influences such as schooling or class background. Human nature remains highly malleable, so there are no theoretical barriers to transforming society into the worker's paradise that is supposed to follow Marxist revolution.

The debate over Darwinism will not cease. Yet I suspect that 50 years from now, on the bicentennial of the H.M.S. *Beagle*'s departure for unknown shores, scientists will be celebrating the continuing triumph of Darwin's theory of evolution through natural selection.

Words and the Man: The Art of James Joyce

Literary scholars have enshrined James Joyce as the most influential voice in 20th-century fiction, and this winter they are celebrating the centennial of his birth. Despite his monumental reputation—or perhaps because of it—many Americans have shied away from his work, particularly the last two novels, *Ulysses* and *Finnegans Wake*. Surveying Joyce's career, critic Frank McConnell here argues that the works of the Irish genius should not be considered daunting or inaccessible. Read Joyce, McConnell urges us, to see how the human spirit triumphs even in a time of troubles.

by Frank D. McConnell

James Joyce has become a name for his century. This is a simple statement of fact, beyond argument, beyond considerations of genius or talent or influence. With all the arrogance of greatness, Othello could say to the night watch, "Not to know me argues thyself unknown." And Joyce —or the shade of Joyce—could revel in the same sort of pride. We have not begun to understand ourselves or our age until we have begun to understand him and his work.

But what an unlikely candidate for such eminence! Stravinsky and Picasso, who shared Joyce's century, were profligate. Work followed work, style followed style, and it seemed, at the height of either man's career, that there was no end to their gifts. Joyce, on the other hand, published little: less, perhaps, than any writer who has ever earned the title "great."

There were, during this life, two volumes of relatively forgettable poetry; there were numerous reviews, fugitive essays, and a play. None of them matter, except to specialists.

There were also, however, four pieces of fiction: *Dubliners* (1914), *A Portrait of the Artist as a Young Man* (1916), *Ulysses* (1922), and *Finnegans Wake* (1939). Notice the dates: two books published within two years, eight years till the next book, and 17 years till the last. Not an overwhelm-

ing production over nearly a quarter of a century—except that these four books, as much as any published in our century, changed the world. They changed the way we think about ourselves, about one another, and about the cities in which we live. Perhaps most crucially, these books changed the ways we tell stories about ourselves.

Yet Joyce never thought of himself as the "founder" of a school or "leader" of a movement. He never had the intention of altering, forever, the way stories could be told in his culture. He seems only to have intended to work out the problems, personal and aesthetic, that were his private obsessions. And yet it is safe to say that the best who write after Joyce are, by and large, those most aware of his achievement.

The same, of course, can be said of music after Stravinsky and painting after Picasso. But Stravinsky and Picasso are more promising candidates for this kind of immortality than is Joyce. They are, after all, cosmopolitans. However deeply rooted in their creators' histories and psyches, works such as *The Rite of Spring* and *Guernica* transcend national, histor-

A portrait of James Joyce by Pavel Tchelitchev.

Courtesy of the National Gallery of Ireland.

ical, even cultural boundaries: They are words in a universal language, a language beyond the languages spoken by men.

And can we say the same of Joyce? Can we make the claim "cosmopolitan" for a writer who, during almost 30 years of a career, chose to write about one pedestrian, provincial, partisan city, his "dear dirty Dublin"? Should we venerate a writer whose progress seems to be from the comprehensible but limited to the cosmic but unreadable; a writer who said that since he himself spent 17 years writing his last great work, he expected the reader to spend at least as much time deciphering it?

A Self-Made Orphan

One of the saddest anecdotes I know concerns Joyce after the publication of *Finnegans Wake* in 1939. He had just completed the greatest novel of the 21st century and was living—as he always had—in near poverty. He was residing, furthermore, in France, on the eve of the Second World War. His eyesight, never good, had by now failed altogether. His daughter was in a madhouse. And then, while the world exploded around him, while the Germans marched into Paris, Joyce sat—his great work completed—listening to a shortwave radio broadcast from Dublin of Irish tenors singing the plaintive lamentations of the 1920s.

Is this the figure of a heroic artist? Well, in the oddest way, it is. Exile, either real or imagined, is the badge of the 20th-century artist. How many of our modern poets and novelists have *not* thought of themselves as refugees, either from a homeland or from a system of inherited beliefs in which they can no longer *feel* at home? Joyce may be so important an artist precisely because he was such a perfect, if self-made, orphan.

Joyce was born February 2, 1882, in a Dublin suburb. His father, a relatively comfortable and successful minor politician during James's early youth, experienced a steady economic and personal decline during precisely those years when James, like any young man or woman, most needed a strong, authoritative parental figure. It is pointless, though, to psychoanalyze Joyce and his work in terms of a "weak father-image," partly because such analysis does not begin to account for the brilliance of his work, and partly because the work itself is so manifestly concerned with the theme of the quest for a father.

Singing for Medals

In 1904, Joyce wrote a short sketch called "A Portrait of the Artist"; it was rejected by the journal he submitted it to. He was teaching that year at a school in Dalkey—a suburb of Dublin—where the students were much richer than he or his family could hope to be. Also in 1904, he contended in the locally important Feis Ceoil singing contest and won the bronze medal. And in 1904, he met, and fell in love with, a baker's daughter, Nora Barnacle, the semiliterate and entirely admirable woman who was to be his lover, wife, and confidante for the rest of his life.

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It was, on the whole, an auspicious year for young James Joyce. And with predictable, and perhaps pardonable, egotism, he tried to make it the indispensable year of his age. *Ulysses*, arguably the greatest novel of the 20th century, is the story of the events of a single day: June 16, 1904.

Jimmy's Sentences

Joyce's world—the Irish-Catholic world of the early 20th century—was littered with dead fathers. At the philosophical level, the intricate structure of Thomistic logic was beginning to be questioned, even in Catholic circles. At the political level, all Ireland remained violently divided over the death of its great, unsuccessful champion of national independence, Charles Stewart Parnell (1846–91).

Joyce took to heart, and never forgot, the image of Parnell as the archetypal Irish leader, betrayed and exiled by his own people. Indeed, he probably came to think of himself as a literary Parnell, just as a century earlier the poet Lord Byron had come to think of himself as a literary Napoleon.

At the personal level, Joyce's family—and his plans—had disintegrated. He had gone to Paris in 1902 to study medicine, returned to Dublin the following year as his mother was dying, and stayed to witness the pathetic decline of his family's once bright prospects.

He left Ireland in October 1904—*fled* is probably a better word—with Nora in tow, to teach English in the Berlitz School in Pola, Italy. The two would be married formally only in 1931 (their son and daughter attended the wedding), and Nora would never quite understand why her Jimmy loved so to make sentences.

Before Joyce left Dublin, he had virtually completed a series of stunningly original stories: *Dubliners*. As a young man under the spell of the French "realists," particularly Flaubert and Zola, he had taken to wandering about his city, copying in a notebook chance phrases, random impressions that seemed to open up, in their very specificity, worlds of implication about life as it is led. "Epiphanies," he called such moments; *Dubliners* is built up of them, though its final effect goes far beyond mere "slice-of-life" realism.

Dubliners is both a summary of and a farewell to the possibilities of naturalism. Each tale catches its characters in self-enforced imprisonment, each is the snapshot of a stunted soul. But these pictures of failure are redeemed by the writer's delight in the revelatory power of language. "There was no hope for him this time," begins the youthful narrator of "The Sisters," the first story in *Dubliners*; an old, half-mad priest is dying:

> He had often said to me: *I am not long for this world*, and I had thought his words idle. Now I knew they were true. Every night as I gazed up at the window I said softly to myself the word *paralysis*. It had always sounded strangely in my ears, like the word *gnomon* in the Euclid and the word *simony* in the Catechism. But now it sounded to me like the name of some maleficent and sinful being. It filled me with fear, and yet I longed to be nearer to it and to look upon its deadly work.

Even in this most precise, realistic set of stories, it is *words*—the sound of them, their texture, and their evocative power—that fascinate the writer most.

A distinguished Joyce scholar, Donald Torchiana, has recently demonstrated that *Dubliners* is more deeply embedded than anyone had

suspected in the political and social history of the time—politics being a favored Irish sport, and the more Byzantine the better. And yet it is not just Joyce's sense of the intricacies of politics (particularly as depicted in the story "Ivy Day in the Committee Room"), or just his sense of the magic of words, that makes *Dubliners*, more than a half-century later, still arresting and startling. It is the wedding of those two vital interests. Like certain 17th-century Dutch paintings, each tale in *Dubliners* has a surface so absolutely "realistic" that a kind of eeriness adheres to the faithfulness of representation.

Prig and Hero

Joyce had great difficulty publishing *Dubliners*; in 1912, a printer destroyed the type because he judged the volume "obscene." That anonymous printer may have been, in his way, as perceptive a reader as any Joyce has had. He understood, at least, the radical quality of the prose he was reading. More academic readers have missed that essential point.

Dublin was, according to Joyce's book, a city of the living dead: The word *paralysis* was both an epigraph and an epitaph for its spiritual moribundity. Never again would Joyce articulate so precisely what he hated about the city he could not help loving.

Before he had finished the sketches of *Dubliners*, though, he had begun an expansion of his early sketch, "A Portrait of the Artist." It began as a longish, realistic, autobiographical narrative called *Stephen Hero* (which he never published) and grew into the complex book called *A Portrait of the Artist as a Young Man*, initially serialized in 1914, the year of *Dubliners*, and published in its final form two years later. *A Portrait* begins in baby talk:

> Once upon a time and a very good time it was there was a moocow coming down along the road and this moocow that was coming down along the road met a nicens little boy named baby tuckoo.

And it ends in prose-poetry:

> Welcome, O life! I go to encounter for the millionth time the reality of experience and to forge in the smithy of my soul the uncreated conscience of my race. . . . Old father, old artificer, stand me now and ever in good stead.

It is the autobiographical narrative of the author's discovery of his vocation. Only Joyce could be vain enough, and masterful enough, to turn his dedication to art into the *matter* of art. The wonder is that he made *that* theme seem so important for so much of his century.

A Portrait is the story of Stephen Dedalus, a poor Dublin intellectual who comes to dedicate himself to the life of art after exploring, and rejecting, other possible "fathers": family, country, and church. Named for the first of Christian martyrs, St. Stephen, and for the legendary artisan of the classical world, Daedalus, the constructor of the labyrinth, he is the perfect image of Joyce's self-estimation, but he is also the perfect image of Joyce's self-hatred.

It is virtually impossible to read *A Portrait* with a consistent attitude toward its protagonist. Stephen emerges as both a hero of artistic struggle and an impossible prig: precisely the figure Joyce strove to create.

This was the book that attracted the attention of the best minds of Europe. Yet its author continued to wander about the Continent, teaching English, trying with little success

to support his growing family. Joyce became a shameless sponge, particularly in dealings with Stanislaus, his younger brother. Over the next decade, he would receive money from a number of admirers, including Ezra Pound and the generous bookseller and publisher Sylvia Beach.

Had he written no fiction besides *Dubliners* and *A Portrait*, Joyce would still be remembered. They represent, between them, the perfect transition from 19th-century realism to 20th-century impressionism.

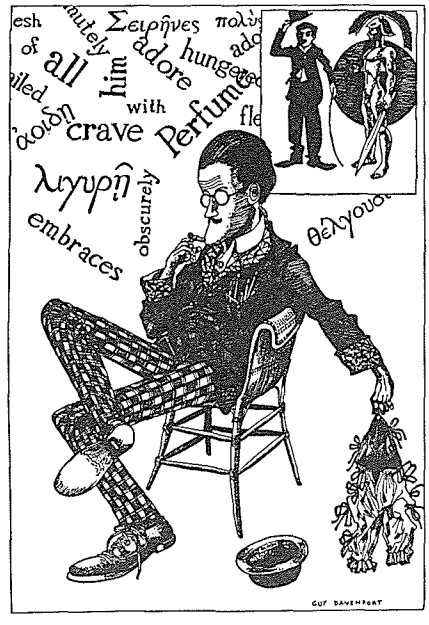
Bloomsday

But there was another story to tell.

He had planned, as one of the stories in *Dubliners*, a short tale about a Jewish-Irish advertising canvasser wandering about the city during a single day. From the earliest plans for the story, he seems to have thought of his central figure as a kind of tragic-comic clown, modeled perhaps after the greatest of clowns, Charlie Chaplin.

For some reason, it never got written. Instead, in 1914, the year in which *Dubliners* appeared and in which the first, fragmentary version of *A Portrait* was serialized, Joyce began expanding his original idea into a long, revolutionary novel. Titled *Ulysses*, it appeared in 1922.

Ulysses retains the bare skeleton of the original, short-story conception: the events of one day (what has come to be known as "Bloomsday") in the lives of three major characters. There is Stephen Dedalus, a few years after the time of *A Portrait*, a failed poet and bitter intellectual still looking, rather hopelessly, for a father. There is Molly Bloom, the promiscuous wife of the novel's hero, who seems to spend the whole day in bed, either betraying her husband or dreaming, at the end, about their early, passionate love. And there is Leopold Bloom, above all, Leopold —cuckold, fool, philosopher, exile, and archetype.



Guy Davenport. From The Stoic Comedians *by Hugh Kenner.*

Joyce read five languages, and knew a few more well enough to pluck from.

Bloom is the most common of men; Bloom is the most extraordinary of men. A walking compendium of the half-understood truths of his culture, he is also an active and thoughtful participant in the communal life of that culture. A paradox, of course, but as such, he is the perfect incarnation of Joyce's own idea of himself as artist, and of the artist in general: simultaneously vulgarian and high priest.

Bloom is the "Ulysses" of the novel's title: the great wanderer who finally finds his way back to home and wife and kingdom. Molly is his

Poetry/Rare Book Collection, State University of New York, Buffalo.

The first line from Homer's Odyssey, *"Tell me, Muse, of the man of many devices, over many ways," accompanies this sketch by Joyce of Leopold Bloom.*

adulterous Penelope, and Stephen his Telemachus, his lost son searching for him. Each of the episodes in Bloom's day parallels one of the major episodes of Homer's *Odyssey*, so that we are kept constantly aware of the pressure of ancient myth upon these apparently random events.

Ulysses' encounter with the Cave of the Winds, for example, becomes Bloom's visit to the newspaper office for which he works. And Ulysses' imprisonment on the isle of the seductress-witch, Circe, is translated into Bloom's visit to Nighttown, Dublin's red-light district.*

Of course, this is not itself an original technique. Satirists from Juvenal to Alexander Pope to Woody Allen have used the form called "mock-heroic," contrasting the tawdry realities of the present day to the stature and nobility of the olden days, precisely to call us back to the knowledge of how far we have fallen from majesty. T. S. Eliot used the myth of the past in just this way in *The Waste Land*—published in 1922, the same year as *Ulysses*—and in doing so wrote the anthem of the "lost generation."

Ulysses could be read the same way, and usually was in the years just after its appearance. "Obscene," "blasphemous," and "disgusting" were among the terms applied to it, perhaps with some justification: It begins with a parody of the Latin Mass, and one of the earliest scenes carefully details Bloom's morning defecation. Virginia Woolf, a great

*An immensely useful guide to the novel's mythic parallels is Robert Martin Adams's *James Joyce: Common Sense and Beyond* (1966).

novelist and a great snob, described it in her diary as an "underbred" book (although her own masterpiece of 1925, *Mrs. Dalloway*, could probably not have been written without the influence of it). And it could not legally be purchased in the United States until 1933.

But is it, after all, this and nothing else: Satire of the most corrosive sort? A Swiftian howl against the degeneracy of the times? Had *Ulysses* been written by Stephen Dedalus, the answer would probably be yes. But Stephen Dedalus did not write it; probably could not have written it; and that is one point of the novel.

Finding Energy

The artist as a *young* man suffering from a sense of isolation and rejection solaced himself by contemplating the stupidity and crassness of the world. But *Ulysses* was published on Joyce's 40th birthday. And it brims with life: with the sights, smells, and sounds of Dublin and with the energies of all its major and minor characters.

Ulysses's rapid shifts of style, its dizzying cuts from scene to scene and character to character, have often been called "cinematic." The book is more than that, of course: It is a celebration of the richness of experience. Ulysses is *mock* mock-heroic—for what it finally insists is that contemporary life, for all its cheapness and vulgarity, can still be imagined as a re-enactment—an authentic re-enactment—of the great rhythms of mythology.

Stephen Dedalus, in *A Portrait*, had walked through Dublin looking at the advertising placards, shop legends, and newspaper hoardings of his middle-class culture and thought of them as "heaps of dead language." But *Ulysses* is virtually the resurrection of that "dead language," the discovery that it lives with an energy that revalidates the potential of the human spirit (a community sing, as scholar Alfred Appel described the novel).

To be sure, this aspect of the book has only recently found academic endorsement. Some critics like to make a distinction between "high" and "popular" culture, insisting that the latter can only be the humus out of which "real" culture grows. But artists have always known better. And writers as greatly gifted, as widely different, and as equally influenced by Joyce as Saul Bellow and Thomas Pynchon have shown us, brilliantly, how much the heritage of *Ulysses* is the task of finding within the apparently dehumanizing paraphernalia of the everyday precisely those elements and energies that make us, and have always made us, most fully human.

A Heroic Marriage

There is a paradox built into this quest, as there was a deep paradox built into Joyce's imagination and spirit. As his books became more fully celebrations of the common life of the 20th century, they also became more complex, more self-conscious, more difficult—and less accessible. If Stephen Dedalus could never have written *Ulysses*, Leopold Bloom could never have gotten through it.

The wedding of popular culture and high imagination is not an easy marriage to arrange; no really worthwhile marriages are. But our central artists have always known that, without such a wedding, both the culture of the people and the art of the elite are disastrously impoverished. *Ulysses* is, above all else, a heroic attempt at such a wedding.

But it was not the most heroic at-

tempt Joyce was to make. In 1923, the year after *Ulysses* appeared, he began another book. It would be published, finally, in 1939 as *Finnegans Wake.* But during the 16 intervening years, while sections of it appeared in various literary magazines in Europe and in the United States, it was known under the simple, and tantalizing, title, "Work in Progress."

"Work in Progress" appeared incoherent, formless, radically subversive as it was coming out in fragments. And *Finnegans Wake,* when it finally was published in one piece, seemed to most people hardly less so. Indeed, a number of distinguished Joyce scholars stop at *Ulysses,* assuming that Their Man, after some splendid and epoch-making innings, went mad (or at least went unapproachably private, wasting his genius on multilingual puns and recondite allusions).

Finnegans Wake is a daunting book, and probably no one has opened it without a sense of blank desertion, even panic. "riverrun," it begins:

> riverrun, past Eve and Adam's, from swerve of shore to bend of bay, brings us by a commodius vicus of recirculation back to Howth Castle and Environs.

There is not even a capital letter to mark the beginning of the sentence. But, of course, it isn't a sentence: It is the end of the sentence that is also the ending of the book:

> The keys to. Given! A way a lone a last a loved a long the

So the book begins as it ends, and ends as it begins, closing in on itself, like a serpent eating its tail or like the cycles of universal history. It is a history of mankind, a history of the great cycle of fall, death, and resurrection found in all human myths. And at the same time, it is a history of the cycles of loss and recovery implicit in the life story of any one, isolated human being.

In *Ulysses,* Joyce had shown—or discovered—how all history might be imagined in the events of a single, randomly selected day. In *Finnegans Wake,* he would show how all human consciousness might be compressed into the fantasies of a single, archetypal night.

Coffins and Whiskey

Perhaps, though, it is only a dream. Perhaps the whole narrative of *Finnegans Wake* is simply the dream of the Dublin pubkeeper, Humphrey Chimpden Earwicker, as he reflects on his wife, his two sons, and his daughter: an undetermined night, an undetermined date, and an undetermined cast of characters for a drama with no clear conclusion.*

But there are other ways of reading the book; nearly as many ways, indeed, as there are potential readers of *Finnegans Wake.* For the book is *about* reading. In a serious sense, the real plot of *Finnegans Wake* is how the reader—any reader—learns to decipher it.

There is an old Irish song called "Finnegan's Wake": Tim Finnegan, a drunken Dublin hod carrier, falls from his ladder one day and dies. Laid in his coffin, he is waked by his friends in typical Irish fashion, with plenty of drink for all, but when one mourner accidentally tips a bottle of whiskey on the corpse's head, Finnegan magically revives, to the great delight of those around him.

*Such is the premise of Joseph Campbell and Henry Morton Robinson's valuable guide, *A Skeleton Key to Finnegans Wake* (1961).

Detail from The Book of Kells. *(ca. ninth century). Joyce admired the intricacy, wit, and artistry of the Irish illuminated manuscripts. His use of Egyptian myths in* Finnegans Wake *was partly inspired by Egyptian Coptic elements in the* Kells. *Fond of puns, he referred to his* Ulysses *as the "usylessly unreadable Blue Book of Eccles."*

Courtesy Bibliotheque Municipale, Amiens.

On this slight, even silly song, Joyce poses all the complexity and intricacy of his final novel. For, in its humble way, it is the quintessential story of mankind's hopes and dreams, the resurrection tale at the heart of all the religions, the mythologies, and the languages men have devised. Finnegan is Jesus is Krishna is Adonis is Moses . . . is you and me. Joyce insists upon the equivalence and insists that we have not begun to read successfully until we have read —not just his book, but all books— this way.

"Somewhere, parently, in the ginnandgo gap between antediluvious and annadominant the copyist must have fled with his scroll," says the speaker of the *Wake* early in the book, and the whole book is, in a way, an attempt to recreate the original history of the fall, which has been fragmented and garbled through all ages of mankind.

The plot of the book is simple—as simple as one, two, three, four—and is repeated on virtually every page. HCE, a Dublin pubkeeper, is married to a woman named ALP, and they have two sons, Shem and Shaun, and one daughter, Izzy. HCE (whose name means "Humphrey Chimpden Earwicker" or "Here Comes Everybody" or the "Hubbub Caused in Edenborough") has committed a crime in the park, a primal and embarrassing sin perpetrated upon two young girls (doubles of his own daughter), witnessed by three soldiers, and judged by four old men. As he dreams his night away, he recapitulates the crime—which is the archetypal "crime in the park," the first sin of Adam in Eden—and recapitulates also his defense by his loving wife, ALP (Anna Livia Plurabelle).

One, two, three, four: one crime,

two women, three witnesses, four judges; one king, two heirs, three suitors, four adjudicators; the age of kings, the age of knights, the age of policemen, the age of satirists. The cycle can go on forever, producing new names but the same relationships at every turn. Yet the point is clear. In *Finnegans Wake*, Joyce thinks himself all the way back to a "monomyth," the central, crucial myth behind all later stories, and he relocates it within the context of the everyday.

In fact, the famous "difficulty" of *Finnegans Wake* is largely an illusion. No one, of course, can read it with a total comprehension of what the author meant by every single word, but can this claim really be made for any but the silliest books published in the history of printing? Learning to read the *Wake*, I said, is learning what it is like to read; and part of that learning is the realization that all stories, as the "author's original intention," are irrevocably closed to us; and that all stories, as a creative *interchange* between author and reader, are infinitely suggestive.

No Penalties

When "a part so ptee does duty for the holos we soon grow to use of an allforabit," he says early on in the book. You don't have to recognize the puns on the French *petit* ("little") or Greek *holos* ("whole") to realize that the author is telling you, here as everywhere, just how to use his book. The "allforabit"/alphabet of *Finnegans Wake* is a language composed of all the languages of the world, just as the central story of death-fall-resurrection is composed of all the mythologies of the world.

The "difficulty" of reading the *Wake* stems not from its being written in an impossibly private language, but rather from its being written in perhaps the most outrageously universal language ever devised for a single piece of fiction. The book *is* an "all for a bit," an alphabet of the human imagination.

Of course, the book is a failure, at least in the terms people use to "rate" masterpieces. It has become virtually a byword for incomprehensibility. And that is a great pity. For the *Wake* is *not* a book to read—it is a book to read from. You sample it the way orthodox Muslims are told to recite the Koran: "as much as may be easy for you." And there is, of course, no penalty attached to reading a paragraph a month as opposed to reading five hundred pages a day.

Inventing a New Sin

Joyce died in Zurich in 1941, two years after *Finnegans Wake* was published, exhausted, ill, and still daydreaming of the Dublin he had left in rage nearly 40 years before. During most of the composition of the *Wake*, he had been too nearly blind to write and had dictated much of it to a young Irishman with literary ambitions, whom he had adopted as a protégé and secretary; his name was Samuel Beckett.

It used to be a commonplace to observe that, with the *Wake*, Joyce had taken the art of the novel to an unsurpassable limit; that this work represented both the culmination and death of the novel. While this observation may be precipitous, it is fair to say that after Joyce the novel will never be the same. He was too idiosyncratic a genius to leave visible heirs or specific influences behind him. But as the English critic Frank Kermode once said of John Milton, he made possible a whole new way of writing badly as well as brilliantly. (This is tantamount in originality to

inventing a new sin and should be recognized as a major accomplishment.)

Joyce's progress from the hyperrealism of *Dubliners* to the dream-vision of *Finnegans Wake* is a kind of map for the possibilities of recent European and American fiction. For that fiction has alternated—and will probably continue to alternate for some time—between photograph and dream, between an obsessive reconstruction of the world as it is and a hallucinatory presentation of the world as it feels. Joyce may well have been the last writer—at least for a while—to give us both visions of the novel at once.

Storytelling is one of the oldest professions, and Joyce understood—as almost no writer had understood before him—that it is the idea of *story*, and not later, partial formulations such as "novel" or "fairy tale," that really matters. In a lifetime of trying to write stories, he found himself driven more and more back to the beginnings of story, which are also the beginnings of language. He forced upon us the knowledge that "modernist" fiction could go in only one direction—back: back to the roots of mythmaking; back to the origins of story in the primal interchange of human consciousness and external reality, dream and waking.

Like all artists, great or ordinary, he told us nothing new. "Poetry makes nothing happen," wrote W. H. Auden in 1939, in what is probably the shortest and smartest thing anyone ever said about the usefulness of literature. *Finnegans Wake*, unlike the general theory of relativity, tells us absolutely nothing about the world we could not have guessed before. But it *reminds* us of things we may have forgotten, and things we apparently have to keep reminding ourselves of—else why continue to tell stories at all?

More than anything else, *Finnegans Wake*, and Joyce's whole work, reminds us of the immense value of life and of the degree to which any human experience implies worlds and words of meaning, of mythic memory. Joyce is no wasteland artist: If he has become a name for his century, it is because he understood and, against all odds, loved his century so much. In the midst of the wasteland, he found life, and life abundantly. That inheritance may well be the distinctive vocation of the modern novelist: to locate, in the heart of a terrible and potentially suicidal century, causes for rejoicing.

Special Collections Department, Northwestern University Library, Evanston, Ill.

COMMENTARY

We welcome timely letters from readers, especially those who wish to amplify or correct information published in the Quarterly *and/or react to the views expressed in our essays. The writer's telephone number and address should be included. For reasons of space, letters are usually edited for publication. Some of those printed below were received in response to the editors' requests for comment.*

How Much Do Reforms Matter?

Jack Walker's "Reforming the Reforms" [*WQ*, Autumn 1981] is on the whole a fair and balanced analysis of the strengths and weaknesses of our "much reformed" presidential nominating process.

My own personal bias for many years has been that political and economic forces plus personal factors—candidate skills, positioning on the issues, organization, political "timing," and strategy—and the vagaries of the media have more to do with winning a presidential nomination than do the party procedures or reforms prevailing at any given time.

John Kennedy won in 1960 over other contenders more acceptable to party leaders because he started earlier than anyone else, built a better campaign team, used television more effectively, and projected the image of a gallant, charismatic man, with not only a new face but a new style. His victory had little to do with reforms or the absence thereof; he would have done equally well with the same techniques after the reforms of the late 1960s or early '70s.

For my own part, I constructed a blueprint for winning the Democratic nomination in 1972 that I would have pursued with or without the reforms of the commission I reluctantly agreed to chair at the urging of other Democrats.

Long before the reform days, the old tried and tested methods of the past gave us such dubious candidates on the Republican side as Harding, Coolidge, Hoover, and Nixon (three times in the case of Nixon). In the crucial pre-reform decade leading up to the Civil War, the Democrats produced such lackluster nominees as Lewis Cass, Franklin Pierce, and James Buchanan—the last two serving without distinction in the White House.

With or without reforms, our presidential nomination process more often than not dredges up a man limited in talent, imagination, courage, and brains. From time to time, we have been fortunate in producing a Lincoln or a Franklin Roosevelt—either by the force of their ability or the breaks of history—but these are rare exceptions. I would not expect our Presidents to improve or decline noticeably on the basis of further tinkering with the ground rules.

I would make one suggestion similar to Jack Walker's: permit state parties to hand-pick perhaps 25 percent of the delegates, with the remaining 75 percent selected by the open process provided by the reform rules.

This combination might be a useful safeguard, although I would not count on it for any dramatic improvements.

George S. McGovern
Washington, D.C.

Mr. McGovern, who served as a U.S. Senator from South Dakota from 1963 to 1981, was the Democratic presidential nominee in 1972.

Presidential Nominations—Patching a Crazy Quilt

Most political scientists will agree—as I do—with Jack Walker's review of the deficiencies in the U.S. system of presidential nominee selection and his explanation of the social developments that have brought us to the present condition.

Professor Walker does not, however, devote much attention to that part of the problem on which there is nothing remotely resembling agreement: how to correct the nomination mess without creating a host of new deficiencies.

We would have a better chance of suc-

cessfully sifting our way through many different "re-reforms" being suggested if we kept clearly in mind the several vital objectives to be served in the process of choosing presidential nominees:

Effective "peer review." Party leaders should not have exclusive dominion in selecting presidential nominees, but neither should their formal role consign them to the grandstands.

Rational, expeditious, and timely selection. Enormous mischief is done by a crazy-quilt system whose key 1980 events stretched from the Iowa caucuses in January to the Democratic Convention in August.

Representativeness. To find two national-party candidates who faithfully reflect the preferences of a potential electorate of more than 160 million will forever be an elusive task. Only parties are geared to take those steps through which the diverse coalitional interests of the country are properly recognized.

Since they are at once critically important representative institutions and an "endangered species," one cannot ignore the impact that a nomination system has upon the parties. If the parties are not permitted to play a substantial role in the nomination process, they are not likely to have much institutional life at all.

What the public is looking for in presidential selection is not simply the chance to vote on primary day but the confidence that can come only from participating in a coherent process that has as much chance as possible of yielding competent and responsive presidential candidates.

Everett Carll Ladd
Professor of Political Science
University of Connecticut

Jack Walker replies:

In the 1980 election, it was widely reported that only 53.9 percent of Americans of voting age cast ballots for a presidential candidate, about 20 percentage points below the average turnout in Canada, France, and Britain. Mr. Ladd's points are well taken; let me take the issue a step further. Low voter participation cannot be laid to deficiencies in the nominating process alone.

The most important restraint on election participation in America is our highly restrictive system of voter registration, originally introduced by reformers before the turn of the century to curb fraud. The amount of fraud declined, but large numbers of eligible voters were also discouraged from voting by cumbersome new procedures. Turnouts for American elections were equal to European rates prior to the enactment of registration laws but began to drop immediately after these laws were passed.

Voter registration is managed by the states. It is an almost universal requirement throughout the country that citizens must appear in person at a government office before Election Day to place their names on the official register. This requirement, along with the practice of closing these registers in some states as many as six to eight weeks before the election, is almost solely responsible for the low voter turnouts.

Scholars have conclusively demonstrated, through comparisons of results in states with differing registration requirements, that if all states adopted procedures no more lenient than those already used by the most permissive states, turnout in the 1972 national election would have increased by as much as nine percent.

If the U.S. government went further and took responsibility for automatically enrolling every eligible citizen on the voting rolls—thus requiring nothing more than a visit to the polls on Election Day—and held elections on Sundays or holidays, American electoral turnouts would easily reach the high levels characteristic of Western Europe.

Antarctica: How To Share It

Re "Antarctica" [*WQ*, Autumn 1981]:

When the original 12 powers negotiated the Antarctic Treaty in 1959, they knew they could not agree on vital questions such as criminal jurisdiction, exploitation of resources, or how to win

general international acceptance. But they decided to agree on what they could, sign a partial document, and fill in the loopholes later.

Now, pressed by the specter of Third World interest and by the 1991 treaty deadline (when the rules for changing the treaty will become liberalized), the full consultative parties (now 14) are trying to reach an intramural solution.

They are working against time. For 20 years, a homogeneous group of scientists and diplomats with common loyalties to the region have run Antarctic affairs. But more and more the delegations are becoming crowded with fish experts, minerals industry people, and "policy experts" unfamiliar with the subtle, surprisingly smooth turns of Antarctic diplomacy. As time passes, the participating countries will see Antarctica become more of an extension of fishing or energy policy; bit by bit, extraneous political factors will intrude into this quiet world.

Fortunately, there are many ways the mineral resource problem can be solved within the context of the Antarctic Treaty —assuming a genuine desire to explore and exploit, an equally strong interest in the environment, and a willingness by each of the 14 to do some horse trading.

The group has already negotiated one major satellite agreement to the Antarctic Treaty: the Convention for the Conservation of Antarctic Marine Living Resources, signed in 1980. It is a separate convention; any nation may join as a voting member provided it is "engaged in research or harvesting activities" relating to Antarctic marine living resources.

The problem with any treaty-based solution is that it is apt to be attacked as undemocratic. The treaty asserts that one group of countries has "obligations and responsibilities" (read: privileges) superior to the majority of countries who cannot afford the high costs of becoming full, consultative parties.

What payoff does Chile, say, deserve for its 40-year investment in asserting a territorial right to the peninsula and its highly creative contributions to Antarctic diplomacy? At the same time, what rights does a country such as Bangladesh have (it did not exist when the treaty was signed, it is not rich in minerals, and yet it is part of the "mankind" on whose behalf the treaty powers said they were governing the region)?

It is still considered *outré* in Antarctic circles to talk about the rights of Bangladesh. Such are the vicissitudes of global politics that no arrangements have been made for protein-rich krill products to go to the poorest nations, while an international hoopla may erupt over yet-undiscovered Antarctic mineral deposits.

For the moment, the treaty powers are living one day at a time, to see if they can reach an intramural settlement acceptable to each other and to the broader community. It will be an interesting tightrope walk to watch.

Deborah Shapley
Resources for the Future
Washington, D.C.

Science and the Cold Continent

Interest in the cold continent has waxed and waned, but in this century Antarctica seems to have strengthened its hold on man. In part, this is a consequence of increasing attention by the Antarctic Treaty nations to marine living resources, primarily krill, and mineral resources.

But in the concern for riches that, after all, may be too expensive to mine, the possibility exists of paying too little attention to that aspect of Antarctica which may be of the greatest value to human society.

In recent decades, concern has grown that our ability to accidentally influence our environment may be increasing faster than our understanding of it. While environmental systems are generally so massive and resilient that man-caused changes have usually been of local rather than global concern, there have been a number of valid alarms of possible global-scale changes. Atmosphere heating, due to increasing carbon dioxide from fossil fuels, is a current example.

In most such cases, our scientific un-

derstanding is not yet good enough to dismiss these alarms or to accurately evaluate them. This deficiency, by itself, is ample reason to place a very high priority on developing an improved understanding. And the polar regions must play a vital role in this development. As the world's primary heat sinks, they govern to a large measure the structure of the world's oceans and the atmosphere. Since Antarctica is surrounded by energetic oceans and is, on the average, much colder than the Arctic, it is probably the more important in its influence on our environmental systems.

In polar research, each new fragment in the complex mosaic of scientific knowledge comes at great cost in time, money, frustration, and, occasionally, lives. But these advances are vital to our future. I would suggest that, in the long run, the most valuable export from Antarctica will be the observations and data that extend our understanding of our world.

Edward P. Todd
Director, Division of Polar Programs
National Science Foundation

Java Reconsidered: People and Space

In reading *The Wilson Quarterly* from front to back, leisurely, as is my wont, I have only now reached page 190 [Commentary, *WQ*, Summer 1981] and the astounding 1968 calculation by Margaret W. Sullivan and her husband "that each man, woman, and child in Java had, as total living space, about 15 by 20 feet." Mentally calculating that this meant a population density of somewhere around 100,000 per square mile, I wondered just how many people were in Java altogether.

I looked up Java in my ancient Britannica and found the area given as 48,504 square miles. Turning on my $16.99 electronic calculator, I entered figures as follows: 5,280 × 5,280 × 48,504 divided by 15 × 20. The answer was 4.5074×10^9. Four and a half billion people, that is.

I have no doubt the author was entirely right, that when 4.5 billion Javanese get tense, adjustments just *have* to be made.

William T. St. Clair
Berryville, Va.

Margaret Sullivan replies:

I bow to Mr. St. Clair's superior calculator. We came up with figures that equated our small front yard in Jakarta in 1968. Over time that visual space has shrunk in my mind, hence the erroneous figures.

The basic point, however, has not changed. Javanese live in very small areas. World Bank figures bear this out: "Population density (in Indonesia) is extremely uneven, ranging from among the highest in the world 8,000/km² in Jakarta, and approaching 2,000/km² in several agricultural districts at one extreme, to the very low density of only 2/km² in the enormous 400,000 km² Irian Jaya at the other extreme. The low nationwide population density of 66/km² contrasts sharply with the very high density of 456/km² on agricultural land. Only 7% of the country (Java and Madura) supports 65% of the people" (From *Indonesia's Environmental Progress in Economic Development*, World Bank, 1981).

Consequently, my observation: "Accommodating this proximity while maintaining social harmony is a highly developed Indonesian skill."

Elect the Supreme Court?

Re "The Law: A Litigation Society" by A. E. Dick Howard [*WQ*, Summer 1981]:

If the President were appointed for life, he would encroach into judicial and legislative areas. If members of Congress were appointed for life, they would encroach into executive and judicial areas.

The only sure way of stopping the courts from encroaching into executive and legislative areas is to elect the members of the Supreme Court to limited terms of office.

Stanford W. Briggs
Holland, Mich.

Will the Last Plantagenet Please Come Forward?

Muriel St. Clare Byrne ["The Lisle Letters," *WQ*, Spring 1981] refers to Edward IV as the last Plantagenet king. I was always under the impression that Richard III was the last Plantagenet king, and in the little amount of checking I was able to do, I found support for this contention in the *Random House Dictionary* and Winston Churchill's *The Birth of Britain*.

The British Embassy in New York, which I called—and which, to my knowledge, is the only institution in the city that plays Handel's "Water Music" for those holding—maintains it was Richard II.

Would you be good enough to set me straight on this matter?

Colin MacLachlan
New York City

The Random House Dictionary, *Winston Churchill, the British Embassy, and Mr. MacLachlan are all correct. The origin of the problem lies not in the reigns of Richard II, Richard III, or Edward IV but in that of their common ancestor, the Plantagenet warrior-king Edward III. When this Edward died in 1377, his son, the popular "Black Prince," was dead as well, and so the throne passed to Edward's grandson, the hapless Richard II. Richard was a weak ruler and had to contend with many enemies, including the Black Prince's two powerful brothers, John of Gaunt, the Duke of Lancaster, and Edmund, Duke of York.*

In 1399, Richard was overthrown by John of Gaunt's son, Henry Bolingbroke. For the next 86 years, the descendants of Lancaster and York vied for the crown. While each successive king claimed the Plantagenet title, and rightly boasted Plantagenet blood, Richard II had been the last monarch of the original Plantagenet line.

*The crown passed from Lancaster to York when Edward IV, father of Arthur Lisle, ascended the throne in 1471. Upon his death in 1483, he was briefly succeeded by his son, Edward V, who died (at least according to Shakespeare) in mysterious circumstances. At this point, the crown went to Richard III, Edward IV's brother. Richard reigned until 1485, when he was defeated at Bosworth by Henry Tudor, who established his own dynasty. Thus, Richard III was the last Plantagenet by blood to rule England.—*ED.

ACKNOWLEDGEMENTS

Initial publication of *The Wilson Quarterly* in 1976 was made possible by the assistance of the Smithsonian and by grants from the following individuals, foundations, and corporations: Peter B. Clark, Robert Sterling Clark Foundation, Inc., Copernicus Society, Henry L. and Grace Doherty Charitable Foundation, Inc., William H. Donner Foundation, Inc., Robert Ellsworth, General Service Foundation, Gulf Oil Foundation, Paul and Mary Haas Foundation, Armand Hammer, Frederick C. Julander, Louis B. Mayer Foundation, Richard King Mellon Foundation, Charles E. Merrill Trust, Mobil Foundation, Inc., National Bank of Detroit, Northrop Corporation, Edward J. Piszek, Procter and Gamble Fund, Scherman Foundation, Lord Thomson of Fleet, and United States Steel Foundation, Inc.

Subsequent support has come from the Celanese Corporation, William H. Donner Foundation, Inc., First Boston Corporation, Marathon Oil Company, Richard King Mellon Foundation, John M. Olin Foundation, Inc., J. Howard Pew Freedom Trust, Pogo Producing Company, Sulzberger Foundation, Inc., and Westinghouse Electric Corporation.

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